
THE
PUPIL OF NATURE;

OR

CANDID ADVICE TO THE FAIR SEX.

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ON THE SUBJECTS OF

FREGNANCY; CHILDBIRTH; THE DISEASES INCIDENT TO BOTH; THE FATAL EFFECTS OF IG- NORANCE AND QUACKERY;	AND THE MOST APPROVED MEANS OF PROMOTING THE HEALTH, STRENGTH, AND BEAUTY OF THEIR OFFSPRING.
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By MARTHA MEARS,
PRACTITIONER IN MIDWIFERY.

"Take Nature's Path, and mad Opinions leave."

POPE.

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OR

CANDID ADVICE TO THE FAIR SEX

ON THE SUBJECT OF

INTERMARRIAGES BETWEEN THE MOST ATTACHED
FRIENDS AND NEAR RELATIVES OF BOTH SEXES
AND THE CONSEQUENCES OF SUCH UNLAWFUL
UNION

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ERRATA.

The Authoress had not an opportunity of revising any part of this work, before it went to press—She is sorry to find so many of the pages disfigured by gross inaccuracies—She means, however, to point out only such of them as have a very awkward appearance, or materially affect the sense. A minute detail of what are called *literal errors* would seem to imply an unbecoming want of confidence in the reader's judgment and candour.

Page 36, line 2 of the note, for "the able," read the abbé. Ibid. for "réduits à un même," read réduits à un même. P. 69, l. 16, for "in to day," read into day. P. 94, l. 17, for "unatomical," read anatomical. P. 97, last line, for "light," read tight. P. 98, l. 10, for "lessen," read lessen. Ibid. l. 17, for "paralyses," read paralysis. P. 99, l. 8, for "dérivation," read derivation. Ibid. l. 16, for "leaches," read leeches. Ibid. l. 22, after the words "laid down," insert by Dr. Denman. P. 100, l. 5, for "lèsson," read lessen. Ibid. l. 9, for "flour," read fluor. P. 102, l. 3, for "inconsistant," read inconsistent. P. 104, l. 25, for "existance," read existence. Ibid. last line, for "hasten," read hastens. P. 105, l. 3, for "referring," read referring. Ibid. l. 13, for "Torid," read Torrid. P. 106, l. 23, for "their regular," read the irregular. P. 108, l. 5, for "deposition," read disposition. P. 110, lines 2 and 3, for "actions—are," read action—is. P. 119, l. 8, for "justnes," read justness. P. 123, l. 16, for "permitted, read permitted. P. 139, l. 5, for "extringent," read astringent.

THE PUPIL OF NATURE.

ESSAY I.

1. Grand precept of the wise in every age and every country.--
2. Design of the present work to copy a few pages from the volume of nature; and the writer's fond wish to impress the salutary maxims on the minds of her fair countrywomen.--
3. Tribute of gratitude and applause to the most eminent professors of midwifery.--4. Fatal error of considering the pregnant state as a state of indisposition or disease.--5. Proofs drawn from the conduct of nature in all her works, particularly in preparing her darling object, woman, for the great purpose of perpetuating the human species.

I. "FOLLOW NATURE" is the great lesson which the wisest and best of men have never been tired of repeating. That simple yet important piece of advice includes, in two words, an admirable summary of human prudence. FOLLOW NATURE--trace her footsteps--listen to her voice--mark well her conduct in all her works. She will teach you to do what is right and to avoid what is dangerous or improper: she will hold out the fairest models of excellence for your imitation! she will bring you back from your wanderings, and lead you securely along the delightful paths of truth and happiness. Resign yourself then with confidence to this unerring guide; and if at any time you should be tempted to forsake her, check the fatal impulse by instantly recollecting, that you

are not more liable to lose your way even in the darkness of ignorance, than in the twilight of superficial knowledge—in pursuing the meteors of fancy, or the false glare of imposture and pretended science.

2. But general precepts are of very little use, unless they are unfolded and applied to particular cases. It is my intention therefore to shew that the study of nature alone will direct us to the proper treatment of women after conception,---to the surest means of preserving their health, and of promoting the vigour, growth, and beauty of their offspring. This idea is rather new in appearance than reality. It has not, indeed, been laid down as a principle, or made the foundation of any system of midwifery ; but its truth has been admitted by physicians of the greatest eminence in every age and every country. I claim no other merit but that of a well-meant endeavour to present it in a clear and interesting light. I have little more to do than to copy some pages from the volume of nature :---happy, if I could preserve the beautiful simplicity of the original !---happier still, if I could impress upon the minds of my fair countrywomen a few of its salutary maxims ! I do not mean to amuse them with an idle parade of learning : I do not come dressed out in a rich wardrobe of words, to dazzle their attention : such pomp, such ornaments would ill become the humble handmaid of nature. Yet, in spite of prejudice, I hope my own sex will grant a candid hearing to one who is herself a mother ;---who has united the advantages of experience with those of a regular education and

a moderate share of practice ;---who knows no language but that of the heart ;---and whose fondest wish, in the present attempt, is to allay the fears of pregnant women, to inspire them with a just reliance on the powers of nature, and, above all, to guard them and their lovely children against the dangers of mismanagement, of rashness, of unfeeling and audacious quackery.

3. Let it not be supposed, that, after having spent some years under the most eminent professors of midwifery, and devoted a great part of my time to the perusal of the best treatises on the subject, such as those of a HARVEY, a LEAKE, a SMELLIE, and a DENMAN, I am now ungratefully endeavouring to bring their doctrines and their practice into disrepute. On the contrary, I would with heartfelt rapture strain my feeble voice to swell the note of public praise which they have so justly deserved. I would put their books into the hands of every midwife in the kingdom, and say to her, in the words of the poet,

“ Day and night read them :---read them night and day,”

I know not which most to admire, the ardour of their researches, the importance of their discoveries, or the zeal and ability they have displayed in combating prejudice and error. But much as I respect their talents, they themselves have taught me to feel a still higher reverence for nature. They told me, that we can grow wise only by her wisdom ; and that we play the fool only when we disregard her precepts. I am sure they would join me in proclaiming to the world, that the instructions of man, opposed to

her's, are but the faint glimmering of a taper compared with the radiance of the mid-day sun.

4. A state of pregnancy has too generally been considered as a state of indisposition or disease: this is a fatal error and the source of almost all the evils to which women in childbearing are liable. The joy of becoming a mother, the anticipated pleasure of presenting a fond husband with the dearest pledge of mutual love is chilled by imaginary terrors. A certain change at first is felt: some emotions of fear are then excited: these are increased by the fairy tales of old nurses,---by the rules without number, and the medicines without necessity which interested men so often prescribe. Even where advice may seem proper, we should always be sparing of our cautions. The very means of safety awaken an idea of danger; and that idea is more to be dreaded, because harder to be removed than the worst of maladies.

5. We must begin, then, by banishing the false alarms which so absurd a mistake may give rise to. We must hasten to convince the timid female, that the very state, at which she has been taught to tremble, brings her nearer to the perfection of her being; and, instead of disease, affords a much stronger presumption of health and security. See the benignity of nature in all her other works!--Cast your eyes abroad in the season of love, when each plant tends to re-produce itself by its flowers and its fruit,---when the birds of song redouble their melody, and those that excel in the beauty of

their colouring array themselves in their finest plumage!—Then tell me if you can suppose that nature is less attentive to her darling object, woman, when preparing her for the great purpose of perpetuating the human species. The marks of that preparation are in general very striking. A thousand new charms display themselves at the age of puberty. Health swells the bosom, and expands the whole frame:—the complexion takes a fresher bloom:—the eyes brighten with mild radiance:—the countenance is more expressive and animated, the voice more musical and harmonious, the conversation more intelligent and agreeable:—in short, the body and mind assume a fairer form; and the power as well as the wish to please, give a fascinating effect to the words, the actions, the manners of conscious, yet modest beauty----

“ Grace is in all her steps—Heaven in her eye—

“ In every gesture dignity and love.”

Can we look upon these attractions as the forerunners of pain and disease? Does rosy health invite the sweet intercourse of the sexes, and then abandon the deluded victim? Is woman the only part of animated nature, whose powers are said to be weakened when she wants most to exert them; and who must pass, as it were, through the shades of death, to give life and nutriment to another being? Away with such a silly, such an impious idea. Providence has with equal goodness and wisdom ordered it otherwise. Those changes, which most pregnant women soon experience, are happily designed as

notices of their situation, not as symptoms of infirmity. What physicians term irritability, at that time, is but an increased sensibility of the womb, after it has received its precious deposit, and a quick sympathy of other parts, especially the head and stomach, giving timely warnings of the approach of danger. This will be made more evident by a few remarks on the signs of conception, and on the consequences, or, as they are improperly called, the diseases of pregnancy.

ESSAY II.

1. State of the womb before and after conception,---particularly its increased sensibility.---2. Cause of the ceasing of the Menses in the very first stage of pregnancy.---3. Yet their suppression not always a symptom of that state.---4. How wonderfully every part of the womb is adapted to the security of its precious deposit, and to its delivery in due time.---5. Medium of intercourse between the mother and child.---6. Dr. Leake's and Dr. Denman's opinions on this subject.---7. Power of the Placenta to absorb; such juices of the womb as are salutary and nutritive when the blood of the parent is in the most infectious state.---8. The nerves compared to vigilant centinels.---9. Effects of the increased acuteness of feeling in some pregnant ladies.---10. Readiness of the whole body to be affected by the influence of the womb.---11. Pains in the breasts a warning against luxury, and against the use of stays.---12. Hints to young married ladies on other more equivocal symptoms of pregnancy.---13. Peculiar intimacy of consent between the stomach and the womb.---14. Various affections of the head, heart, and lungs.---15. Alternate descent and ascent of the womb in the different stages of pregnancy.---16. Quickening not to be described with so much precision as to leave no room for the play of fancy.---17. Attended in some habits with hysteric affections.---18. Uneasy sensations occasioned by the gradual rise and increasing bulk of the womb.---19. Powers of the stomach admirably varied according to the wants and progressive growth of the child.---20. In what manner the change which now takes place affects the constitution.

1. **WORDS** alone cannot convey clear ideas of the uterine system, and of the structure of those parts which every midwife should be well acquainted with. To attempt to paint them by any strength or simplicity of description would be equally useless and indelicate. Such essays answer no purpose but to offend the chaste eye;

and to light up a blush on the cheek of modesty. A few remarks will therefore be sufficient; and first it is necessary to observe, that there is little cavity in the womb before conception, the sides of its internal surface being almost every where in contact: but after that event takes place, they separate; and the womb enlarges by degrees, though not mechanically from the growth of the *fœtus*, but from the accession of a new principle, which serves also to increase its sensibility. This change often causes faintings in women of delicate and nervous habits; but as the same effect may be produced by surprise or any other hysteric affection, we must not regard it as a certain sign of pregnancy.

2. One of the never-failing consequences of conception is the ceasing of the *menses*, which is usually accompanied with fulness of the breasts, head-ach, flushings in the face, and heat in the palms of the hands. The blood is also found to have what is called a *sizy* appearance, but of a peculiar kind, and evidently very different from that which is observed in cases of inflammation. Ignorance and fanciful conjecture have equally led to a belief, that the *menses* may continue after pregnancy; and *appearances* have sometimes been thought to favor the idea. Such appearances are always the effect of some accident or disorder, and require the advice of a skilful practitioner. The final cause of the *menses* being to keep the womb in a state proper for conception, they cease

in the very first stage of pregnancy: abortion must otherwise follow, as a part of the *fœtus* would necessarily be detached from the womb at every period. Besides the *os uteri*, or small aperture of that organ is, in a very short time after conception, closed up with a glairy substance, so as to prevent any thing from passing out of, or into it;—another strong proof that these *regular* evacuations are impossible during pregnancy.

3. But though it may be laid down as a general principle, that, when women continue to menstruate, they are *not* pregnant; it does not follow, with equal certainty, that the suppression of the *menses* is always a symptom of pregnancy, even in cases where it may be very reasonably suspected or presumed. Such a suppression often happens from accidental exposure to cold, from errors in diet, from the change of life in consequence of marriage, and a variety of other causes. A little time and proper treatment will remove all doubt on the subject. A continued suppression for three periods, where nothing has taken place to justify a contrary opinion, may be looked upon as the best proof.

4. It has just been remarked, that the dilating of the womb after conception is not mechanical from the growth of the *fœtus*, but from the accession of a new principle which increases its sensibility. The womb, in fact, is never fully upon the stretch, like a bladder inflated with air, but relaxed in such a manner as to be apparently capable of bearing far-

ther expansion without inconvenience. It has another property, which appears directly opposed to all reasoning on mechanical principles: it does not grow thinner in proportion to its greater stretch, but retains its thickness through the whole period, to whatever degree it may be distended*. Here our inquiries are for a moment lost in admiration. We see that, contrary to what would take place in any other elastic or expansive substance, the defence against external injury is not lessened on being more spread out; and by this continued thickness, which is the medium of its strength, the *human* womb is capable of exerting infinitely greater power, for the expulsion of its contents, than that of any other living creature. Thus the security of the precious deposit and its delivery in due time are alike promoted; and, indeed, the whole apparatus, which nature has prepared on this occasion, seems wonderfully adapted to the same double purpose. The substance of the womb is fleshy, but much firmer and more compact than that of any other fleshy part. Its texture, in an advanced state of pregnancy, becomes lax and spongy at the *bottom* where it is not exposed to any violence from without, so as more easily to admit of the gradual enlargement of the blood vessels, when copious supplies are necessary for the nutriment of the growing *fetus*. Before the impregnated *ovum*,

* Its thickness is different at the bottom and neck, being at the former rather less than half an inch, and at the latter somewhat more—a difference well suited to the stress that may be laid on those parts respectively.

or embryo, passes into the womb, the latter is rendered fit to receive it by the secretion of a white *mucus*; which, from the delicacy of its arrangement, has been likened to a spider's web. This afterwards assuming a more solid form, and becoming vascular, adheres or is closely united to the womb, to the cavity of which it forms a lining, and serves also as a tunic or soft wrapper for the *fœtus* and its appendages. The bag that immediately encloses the *fœtus* consists of two other membranous layers, the inner one being transparent and very strong, and the other not quite so pellucid nor of so firm a texture, having a few small blood vessels scattered over it. Within this bag is contained a watery fluid, in which the *fœtus*, safe from external injury, enjoys a free and easy motion, as well as an equable temperature, not exposed to the extremes of heat and cold that must often affect the body of the parent. The same fluid answers another very important end, that of dilating, in the most gentle and efficacious manner, the aperture of the womb and the soft parts at the time of parturition.

5. A minute survey of the womb in a pregnant state would lead us too far from our immediate design; but we must not conclude even this slight sketch of the uterine system without taking some notice of the thick spongy mass, that forms the medium of intercourse between the mother and child, and is called the *placenta*, or cake, from its ordinary shape, and the *after-birth*, from the time of its expulsion. The size and form of the placen-

tary mass vary in different subjects; but it is usually circular, and extends over a fourth part of the bag in which the child is contained*. Its outer surface, which is covered by that membranous lining of the womb before described, is very spongy, and receives blood from the arteries of the womb that penetrate into its substance, whence the blood is returned to the womb by large veins. The inner surface of the cake is furnished with another set of blood-vessels, which divide into very small branches, interwoven with each other, and with a pulpy or *cellular* substance: these receive blood from, and return it back to the child through the tubes enclosed in the *umbilical* cord, or navel-string. The two systems of blood-vessels are completely distinct, and have no sort of direct communication, as is evident from the repeated attempts which have been made to inject the whole cake, the cord, and the *fœtus*, from the vessels of the parent, or any part of the womb from the *umbilical* vessels. It is farther proved, by anatomical discoveries, that there is no kind of proportion between the numberless branches of the *umbilical* vessels compared to those of the womb, to render their union in the least probable. Other arguments may be drawn from what is known to

* It seldom exceeds six inches in extent;---but it is commonly more than an inch in thickness in the middle, and becomes gradually thinner towards the circumference, from which the membranes are continued. See *Denman's Introduction*, chap. 5, sec. 8.

happen in uterine hæmorrhages, and from observations made upon the umbilical cord after delivery ; but the most simple and striking proof that no blood passes directly from the mother to the child is, that the latter often remains pure and healthy, when the whole mass of the mother's blood is tainted with infection. It is therefore evident that the blood of the *fœtus* is, with regard to its formation, increase, and circulation, unconnected with, and totally independent of the parent, except that the matter, by which the blood of the *fœtus* is formed, must be derived from the parent.

6. The best modern writers on this subject concur in opinion, that the blood of the mother, after undergoing some preparatory changes in its passage through the womb, is conducted by the uterine arteries to the outer surface of the *placenta*, in some cells or small cavities of which it is deposited ; and that some part of it, or something secreted from it, is absorbed by the foetal veins, as they may be called, in the inner surface of the *placenta*, and by them conveyed to the *fœtus* for its nutriment. When the blood which circulates in the foetus requires any alteration in its qualities, or when it has gone through the course of the circulation, it is carried by the arteries of the *umbilical* cord to the inner surface of the *placenta*, in the cells of which it is deposited, and then altered or absorbed by the uterine veins, and conducted to the womb, whence it may enter the common circulation of the parent. Thus the *placenta* seems

to perform the office of a gland, secreting alimentary juices from the blood in a manner probably not unlike that in which milk is secreted from the breasts. The veins are mentioned as absorbents, because no lymphatic vessels have yet been discovered either in the cake or the navel-string; nor are there any nerves in these parts; so that the only communication, hitherto discovered between the parent and child, is by the vascular system*.

7. This property with which the placenta is endowed,—this power of absorbing such juices from the womb as are salutary and nutritive; even when the blood of the parent is in the most infectious state, is beautifully illustrated by what may be observed in vegetables, where two plants of different qualities draw their nourishment from the same pot of earth,—the one, for instance, a deadly poison,—the other friendly to the human body, or perhaps an antidote to the former.—This is still farther exemplified in grafting small branches of one fruit-tree on the stock of another: for the juices of the latter will be so far divested of their natural qualities, by passing through different strainers, as only to produce the same kind of fruit with that of the tree from which the cions or ingrafted branches were taken†. By a process somewhat similar,—by means of a twofold circulation in the *placenta*, and the astonishing change wrought on

* Denman's Introduction to Midwifery, vol 1. chap. 5. sect. 8. † Leake's Practical Observations.

the mother's blood on being, as it were, filtered through that cake; the child is preserved from several diseases while in the womb; and, at the time of delivery, may escape many accidents, as we shall hereafter notice, peculiarly alarming to the parent.

8. If from this view of the structure and contents of the impregnated womb we turn to examine the final cause of its increased sensibility, we shall discover new reasons to admire the wisdom and benignity of nature. The nerves, which before conception were extremely compressed, and almost in a state of numbness, are now awakened to a quick perception of the approach of every danger. They spread with the enlarging womb; and though they cannot defend it from accident or disease, they act in other respects the part of vigilant centinels, telling us that some enemy is at hand, and, except in cases of sudden violence, preparing us to repel the threatened attack.

9. When such an increase of sensibility takes place in a woman of a very irritable frame and temper, it must certainly aggravate her former complaints or weaknesses, and produce a variety of feverish effects. She grows more impatient and fretful: her fears as well as her angry passions are more easily excited: the body necessarily suffers with the mind: debility, emaciation, and many hectic symptoms follow: the countenance is altered; the eyes appear larger,---the mouth wider;---and a sharpness is given to every feature. But what inference can we draw from this? That the

feelings are more acute in a state of pregnancy; and that any previous indisposition either of body or mind now requires a more than ordinary degree of care and tenderness. The same delicacy of treatment is equally proper, when the above symptoms are not the consequences of conception, but are occasioned, as may often be the case, by irritation of the womb from other causes.

10. HARVEY, that nice observer of nature, could not help being struck with the exquisite sensibility of the womb, and the readiness of the whole body to be affected or disturbed by its influence. Some parts are, however, more or less disposed to this influence than others, according to their nearness or their distance, and the modes of sympathy, whether direct or intermediate. Their various affections are therefore enumerated among the signs of pregnancy, and deserve to be duly considered: in all cases not only of danger, but even of uneasiness, they direct to the true cause of complaint: this knowledge will dispel groundless fears:---it will lead to the relief, palliation, or cure of real evils.

11. From the remarkable connection between the womb and the breasts, the latter often become swelled, and thence occasion shooting pains in the early months of pregnancy. The like symptoms are also observed to occur at the final ceasing of the *menses*, or when these are casually obstructed, and in some women in a slight degree at each period of menstruation. Pains in the breasts, if occa-

sioned by pregnancy, are most distressing to women who are in great good health, and of a full habit of body. They are a warning not to indulge in those luxuries which tend to augment that fullness of the habit; and as the pain is increased by much pressure, it shews that stays should not then be worn, but that the breasts should be kept loose, and covered with soft flannel or fur. The present fashion of dress, though it has been made the subject of much false wit and improper pleasantry, is equally conducive to health and to natural ease and elegance. Whatever changes in this respect whim or fancy may introduce, it is to be hoped, that at least no pregnant lady will ever again be mad enough to put on the *strait waistcoat* of whalebone, that gothic coat of mail, to cramp and torture nature, when her operations should be most easy and unconfined.

12. The *areola*, or brown circle round the nipples, is a mere consequence of the preceding enlargement of the breasts; and though it generally occurs in pregnancy, it may be produced by any cause capable of giving to the breasts a state resembling that which they are in at the time of pregnancy, of which it can only be esteemed a doubtful sign. Equally, or more uncertain, is uneasiness about the navel, which pregnant women frequently experience, but which may also arise from other affections of the womb. The navel constantly emerges during the latter months of pregnancy. These observations are not made from

an affectation of minuteness, but solely to guard women against placing too great reliance on very equivocal marks. Young married ladies often feel the keen mortification of disappointment, and are sometimes exposed to the rude sneers of others, in consequence of their having too hastily fancied themselves with child, on the most fallacious appearances.

13. There is no part of the body which more immediately contributes to, and partakes of, the harmony or disorder of the whole frame, than the stomach. If to this general sympathy we add the peculiar intimacy of its consent with the womb, we shall not think it surprising that the stomach should be soon affected by the changes which the womb undergoes after conception, and should then be so generally disturbed with vomiting, heartburn, indigestion, and the like complaints. They are designed by nature as cautions not to overcharge the stomach, when the tendency to a *plethora*, or too full a habit, is obvious. Very bad consequences must attend the continued neglect of such salutary hints. At first they are signs of pregnancy: they may afterwards become indications of disease. The most healthy women are as subject to vomiting, in the early months of pregnancy, as those who are delicate and infirm. The different treatment which both may require will be explained in another part of this work. Here we have to observe, that, if the vomiting should not be violent, and should only occur in the early

part of the day, it is so far from being a just cause of alarm, that it is usually found to be serviceable, by exciting a more vigorous action of the womb, and by bringing the stomach into a better state.— The vomiting of pregnant women is not a mere effort of straining, or a discharge of the food and common humours of the stomach : the matter evacuated is evidently of such a kind, that, if it had remained, it must have been prejudicial *. Care, however, should be taken not to renew the supplies of it by any excesses, or errors in diet. Indigestion, depravity, and loss of appetite, are only different modifications of the same complaint ; and the heartburn may be either a mere sensation arising from the consent between the stomach and womb, or the effect of acrid humours secreted by the former.

14. Head-aches, giddiness, and the various affections of the brain, as well as of the heart and lungs, which often accompany pregnancy, are far from being any necessary consequences of that state. They rather shew that the stomach is out of order, though, by its intervention, they may be brought into what is called a *secondary consent* with the womb. Pains of this sort are not specific symptoms of *breeding*, but of some casual indisposition, and will be more particularly noticed in our remarks on the diseases to which pregnant women are most liable.

15. For two months after conception, the contents of the womb increase very slowly in size ; but

* Denman's Introduction, chap. 5. sect. 6.

from that time the growth of the *fœtus* is more rapid and perceptible. As the womb enlarges and becomes heavy, it sinks at first somewhat lower than before pregnancy; and thence, by its pressure on the neighbouring parts, may produce some uneasy sensations. Yet, these are soon relieved by the kind management of nature. About the end of the fourth month, or not long after, the womb, though rapidly increasing in size and weight, rises out of the *pelvis*, or bason, into which it had before subsided, but where its longer continuance would be equally painful and injurious. Instead of being borne down by its gravity, it ascends gradually as high as the pit of the stomach, thus acquiring more space for easy growth and expansion. When that great purpose is answered, the womb, in the course of the ninth month, sinks again into its former situation, as one of the preparatory steps towards an easy, regular, and well-timed delivery.

16. The ascent of the womb out of the cavity of the bason is commonly attended by that first perception of the existence of the child, called *quicken- ing*. This is one of the signs of pregnancy, which; however, does not discover itself at the same periods, nor in the same manner, in different women. The times of its appearance vary from the tenth to the twenty-fifth week, though it usually happens about the close of the fourth month. As the child then rises into a less confined situation, the mother begins to be more sensible of its motions, from that circumstance, as well as from the enlargement of

its size, and its acquisition of greater strength. In some women, the motion is so gentle, that little attention is paid to it, and in others so indistinct that it may be ascribed to a different cause. Young married ladies are also very liable to mistake other sensations for that of *quickening*. It is impossible to describe the latter with so much precision as to leave no room for the play of fancy; and nearly the same sort of feeling is sometimes produced by momentary indisposition, by the effect of wind pent up in the bowels, or even by a particular attitude.

17. In weak and nervous habits, *quickening* will frequently produce those hysteric affections which have been already mentioned among the early symptoms of pregnancy, and which, as then observed, arise from the increased sensibility of the womb, from the remarkable change it undergoes, and a woman's previous disposition to similar fits from various other causes. Surprise, or any violent emotion or passion of the mind, is often attended with the like effects. When they are accompanied with strong indications of a *plethora*, it is proper to call in medical assistance. But even then there are no just grounds for alarm. Hysterics are essentially different from convulsions; and the most ignorant observer may easily distinguish the one from the other by this very obvious circumstance: in the latter there is a discharge of a frothy fluid from the mouth, which never appears in the former. The attention, which either of them may require, will be explained in its proper place.

Here it is sufficient to observe, that hysterics are merely temporary symptoms, in general very slight, and of short duration ; but when convulsions occur during pregnancy, the life of the patient is always to be considered in imminent danger.

18. The gradual rise and increasing bulk of the womb will unavoidably occasion some sensations of uneasiness in the different parts affected by its pressure. These are often relieved by a change of posture ; but they cannot be expected entirely to disappear till after delivery. When they are very troublesome or acute, they indicate something more than mere pressure, or simple irritation, and should be treated accordingly. Complaints of the intestines are then very common, and require more delicate management than in cases of ordinary costiveness. Extreme distention and soreness of the *abdomen* may also demand some care. Proper instructions will be given on these heads, and the circumstances pointed out which may render medical advice necessary. We are now only considering the symptoms, or natural consequences of pregnancy in its various stages from conception to childbirth ; and, in this view of the subject, we must not omit another of the effects produced by the ascent of the womb which may be mistaken for a cold, or a slight asthma. When the womb rises very high, it presses upon the midriff, so as to lessen the cavity of the chest, and to encroach, as it were, upon the space before allowed for the expansion of the lungs. As this must check the free-

dom of respiration, and the easy passage of the blood through the lungs, it excites a cough, accompanied with a sort of teasing and asthmatic sensation, which admits of no effectual relief but from the sinking and subsequent diminution of the size of the womb. The difficulty of breathing is necessarily increased in bed, unless the head and upper part of the body are raised much more than usual, and kept in a *reclining*, rather than a *lying* posture. Occasional blood-letting may also be very proper; but it is perfect quackery to prescribe medicines in such cases; and it is almost as blamable to recommend blisters, which give more pain than they can possibly remove.

19. Every person of common understanding will readily conceive that the inconveniences, which arose from the former subsiding of the womb, must cease or be removed by its ascent. The same kind of reasoning would lead us to conclude, that those uneasy sensations in the upper parts of the body, which followed conception, and were said to proceed from their sympathy with the womb, would be increased by its nearer approach to them. We might in particular apprehend, that the stomach would now be more frequently disordered, and that the powers of digestion would be greatly impaired. But experience shews, on the contrary, that they become more active and vigorous; and that the disposition to sickness or vomiting, of which we have before taken notice, generally disappears after the rising of the womb and the distinct per-

ception of the child's motions. Here again we must stop to contemplate and admire the wisdom of nature, in adapting these changes in the powers of the same organ to the preservation of the mother's health, as well as to the wants and progressive growth of the child. Soon after conception, when the *fœtus*, from its size, can require but little nourishment*, and when there is so strong a tendency in most women to a *plethora*, or extreme fullness of the habit, those symptoms of a weak stomach appear, as indications of pregnancy, and warnings against intemperance. But when the absorbing powers of the child are increased, with its growth, and its demands for larger supplies of nourishment are more constant and strenuous, then the parent feels a keener appetite, and can more safely indulge it;--the functions of the stomach are performed with greater ease and effect;--inanity is more to be dreaded than a little excess;--and there is reason to suppose that, in the latter months of pregnancy, a larger proportion of blood than usual is prepared from the same quantity of food, whence the contents of the intestines are then coarser and more solid. This point will be farther enlarged upon when we come to lay down general rules respecting diet: here it is barely glanced at, as a new illustration of the wisdom and benignity of nature.

* The bag which contains the *fœtus* is seldom expanded to more than the size of a hen's egg for the first two months; but from that time, it becomes every week perceptibly enlarged; and this enlargement or growth is still more accelerated after the ascent of the womb about the end of the fourth month.

20. As our design is not to amuse or gratify idle curiosity by frivolous minuteness, but to confine ourselves to objects of practical importance, we shall here close our remarks on the signs of pregnancy in its different stages, and on the useful lessons to be drawn from various symptoms of temporary indisposition, or of *fancied* disease. The method pursued in most treatises of midwifery may seem to require, that we should now enter on the consideration of the *real* disorders to which pregnant women are particularly liable. But it is of far greater moment, as well as more conformable to the spirit of our plan, to shew how such disorders may be best guarded against; or how a good state of health, if enjoyed at the time of conception, may be preserved and even improved during the whole period of pregnancy. This change in the habit cannot, indeed, destroy pre-disposing causes of illness: it only cherishes the former vigour of the constitution, and prepares it with astonishing efficacy for the great event.

ESSAY III.

1. Influence of the mind on bodily health.---2. Effects of fear in a state of pregnancy---“ Hope, the balm, and life-blood of the soul.”---3. Exquisite pleasure of drying the tear as it steals down the cheek of beauty.---4. Nature’s awful warning to the base seducer.---5. Anger more to be dreaded than all the other vultures of the mind.---6. No passion so unruly as not to yield to the soft controul of tenderness and reason.---7. General remarks on this theory, and on the various means of acquiring a habit of serenity, cheerfulness, and good humour.---8. Short view of the present state of music.---9. Its true character--the language of sentiment. 10. Music, eloquence, and painting compared.---11. Advice to pregnant ladies how to make this recreation peculiarly healthy, as well as delightful.---12. Argument drawn from the instinct which every where attracts singingbirds to the abode of man.---13. Dr. Armstrong’s authority opposed to ignorance, prejudice, and fashion.

1. **THE** prayer of the wise is equally remarkable for its simplicity and conciseness: they wish only for the enjoyment of a *sound mind in a sound body*. The *mind* is mentioned first, because its health is the most important, and because it has an immediate and decisive influence on that of the body. But this remark, though indisputably just in every case, derives peculiar force from its application to the pregnant state, when the fancy and the passions are so frequently exercised, and when the health of the mother, and the growth, the vigour, nay the form, the beauty, the very temper and character of the child depend so much on their powerful effects. In some of those valuable remains of

eastern antiquities, which even the withering hand of time has delighted to spare, we are told that the *Magi* began, in some sort, the education of their children *before their birth*. While their wives were pregnant, they took care to keep them in tranquillity and perpetual cheerfulness, by sweet and innocent amusements, to the end, that, from the mother's womb, the fruit might receive no impressions but what were pleasing, mild, and agreeable to order*. The justness of the principle on which they proceeded is fully confirmed by the history of the whole human race, and certainly deserves the serious attention of parents, to whom, it is therefore hoped, the following detail will not appear tedious or uninteresting.

2. One of the first and most prevailing passions in the breasts of pregnant women is fear. The happiness of becoming mothers is sourly checked by preposterous ideas of danger. They take alarm at the change, at the novelty of their feelings; and the few instances they may have known of miscarriage, or of death, outweigh in the quivering scale of fancy the numbers not to be counted of persons in the like condition, who enjoy both then and afterwards a greater degree of health than they ever before experienced. It is of the utmost moment to root out of the mind those fatal apprehensions; or they will often produce the very evils to which they are so tremblingly alive. Fear chills all the vital parts, weakens the stomach, obstructs

* Strabo, as quoted by the Chevalier Ramsay.

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the circulation, prevents the perspirable matter from escaping through the pores, and clogs the fine machinery of the whole frame. Languor, debility, and disease are the consequences; the difficulty of child-birth is increased; and a puny, or distorted infant is sometimes brought forth—the victim of its mother's terrors. In order to remove that dread which hangs, as it were, upon the minds of so many pregnant women, it will not be enough to point out its bad effects: you must expose its folly, its absurdity, and groundlessness: you must draw back the veil which may have concealed the mysteries of nature from their view: you must shew them the wisdom and goodness of providence favoring, assisting, and effectually supporting the tender, the creative sex, in the re-production of the human species: let them examine with due regard the sources of comfort, which have been described in the former chapter; and let the evidence of reason, the dictates of enlightened practice, and the persuasive voice of truth and candour be opposed to the jargon of quackery, and to the unnerving suggestions of timidity or ignorance. Knowledge will soon expel the dark phantoms of the brain: they vanish before it like the shades of night at the approach of the rising sun; and fear then gives place to cheering and invigorating hope, so justly, so emphatically called the *balm* and *life-blood* of the soul.

g. But though the glooms arising from the influence of imaginary danger may be dispelled by the force of fair argument, there are many other

causes of melancholy, which nothing but the fond attention of the husband can allay. This is the time to prove the sincerity of his love, and to shew himself worthy of the choicest blessings of earth and heaven. How sweet the duty that now calls him to soothe every care,---to share in and lessen pain by tender sympathy,---to raise the depressed spirits,---to pour a kind of day-light into the mind,---to swell the heart with rapture,---and give the most salutary impulse to the genial current of life! What delightful emotions must that man feel, who dries the tear as it steals down the cheek of beauty,---who anticipates the silent wish,---and shelters from each rude blast the tender buds of mutual affection!

4. May I now venture to plead the cause of the unfortunate part of my sex, whose weakness and credulity have betrayed them to the arts of the base seducer? Or rather can I hope to awaken any sense of pity, of generosity, or remorse in the bosom of the man, who triumphs, perhaps, in the effect of his guilty joys, and who abandons the late object of his pretended love to all the horrors of public infamy and private distress? Ah! cruel monster, wilt thou not blush at being surpassed by the birds of the air, and the inhabitants of the howling wilderness, in kind attention to their female partners? Shall she, who relied on the sincerity of thy vows, and who risked her reputation and her life in compliance with thy ardent desires, be now left to languish out her days in shame, in sorrow, in lonely sickness, unpitied want, affliction, and despair? If

all remembrance of past endearment is blotted out of thy faithless memory;---if thou art callous to the sufferings of the poor victim of thy delusion, and to the miseries that await thy helpless offspring at its entrance into the world; yet, for thy own sake, strive to avert the punishment due to such crimes. It is not superstition, it is the voice of nature that bids thee tremble at the ravings of a distracted mother, and at the cries of infant blood!

5. Our account of the physical effects of the passions would be very imperfect, were it not to contain some serious warnings against the indulgence of anger, which is more to be dreaded than all the other vultures of the mind. Fear, melancholy, and even despair sap the constitution by a slow and gradual decay: but anger, like a tempest, breaks it down at once,---shivers the nervous system,---swells the torrent of the blood,---tears the frail texture of the veins,---and often with apoplectic suddenness hurries its wretched victim to the grave. The outward symptoms of rage are much stronger than those of any other passion, as if to make us shudder at the idea of so frightful and dangerous an enemy. The mouth is covered with foam;---the lips are pale and quivering;---the voice is choaked, or emitted in hoarse and thundering bursts;---the inflamed eyes seem ready to start from their sockets;---the features are writhed in convulsive agony; while the heaving breast and frantic gestures shew the entire frame to be no longer put in motion by a human soul, but by one of the fu-

ries. Forbid it, heaven! that this picture should ever be applied to any of my sex! She, who was formed to tame the ferocity of man, will not herself become a tygress! She, whose sweet manners, and mild address give her an almost unbounded sway, will not fling away the sceptre of easy command, to grasp a rod of iron! How unnatural to see weakness clothed in terrors, and to hear the growling of the bear, or the screech-owl's note from a voice that should resemble the music of the spheres! Let beauty also know, that the ravages of the small pox are far less destructive than those of anger. The latter deforms the body and the mind: it too often realizes the fable of a gorgon's head; and, with chilling influence, turns the heart of every beholder into stone. But its effects in a state of pregnancy are doubly alarming. No hereditary, no constitutional disease can be so injurious to the child in the womb as the mother's ungoverned anger. This poisons all the sources of nutriment and life: its feverish spirit escapes the filtering, corrective powers of the *placenta*, and enters into the system of the child, which kind nature had in vain secured from every other taint. Add to this, that the usual tendency of pregnant women to that fulness of the habit already noticed increases the danger of any kind of inflammation, and particularly if occasioned by the impetuous rush of anger. When the blood runs high and rapid, a vessel may burst, and in such a part as to terminate, or bring into great peril the existence of both the mother and the child.

6. As the most placid temper is liable to be ruffled, and the finest spirits catch fire in an instant, the lover, the husband, the father will certainly think it his duty to give way, and to soothe with kind indulgence the emotions of quickened sensibility. How cruel would it be to irritate by contradiction, and to blow up the hasty, the short-lived sparks of anger into a flame ! Your first attempts to allay it may sometimes appear to have a contrary effect, but let me conjure you to persevere, and you will find that there is no passion so unruly as not to yield at length to the soft controul of tenderness and reason. This is not making yourself the slave of caprice, or of female tyranny : it is bearing with the infirmities of your dearest friend : it is preserving a wife and child from certain injury, perhaps from death : it is displaying on your own part an amiableness and generosity of soul, which cannot fail to secure the most lasting returns of gratitude, love, and admiration !

7. It is not necessary to pursue our theory of the passions any farther. The same principle may be extended to them all. Every painful emotion of the mind impairs the health of the body ; and, on the other hand, whatever is pleasing to the former, when under no improper bias or fascinating illusion, is in the like degree salutary to the latter. Pregnant women cannot be too often reminded of this truth. It may be of more service to them than all the prescriptions that ever were written. By operating as a check on many a rising storm, it

may enable them to acquire a habit of serenity, cheerfulness, and good humour, which we have shewn to be so essential to their own health and that of their offspring. It imposes no irksome restraint: it requires nothing more of them than to perform the duties of life with alacrity, and to fill up the moments of leisure with innocent recreations. If they are dull, a change of scene will often dissipate gloomy ideas: books open to them a thousand sources of rational delight; and, as soon as reading fatigues, how sweet is the transition to agreeable company. When all these fail, there is scarcely any depression of the spirits which can resist the exhilarating powers of music. But though its charms are acknowledged by all; yet, strange to tell! they are enjoyed by few, in the manner most conducive to their happy effect. A short view of the present state of music will place this matter in a clear and perhaps useful light.

8. In the higher ranks of life, or what is commonly called the fashionable world, false taste has almost totally destroyed the main purpose of musical entertainments. Any of our concerts, whether public or private, is little better than a capricious hurly-burly of sounds, where the force of art is rather exerted to reconcile discords, than to produce real harmony. The purity and simplicity of our music have been destroyed by the importation of foreign minstrels. These have gradually accustomed us to admire the flying finger, the power of rapidly passing from one extreme to ano-

ther, the voice that can raise and lengthen at pleasure its note, the performance that discovers the greatest degree of mechanical skill, the body, in a word, but uninspired by the soul of music.

9. The frequenters of operas, those especially who set up for connoisseurs, and who carry a stop watch and a spy-glass in their pocket to decide on the merit of a new piece, may tell me, that my want of taste for such compositions as they extol is the effect of ignorance; and that it requires much study, and a regular course of instruction in the science of sounds, even to prepare a hearer for the pleasures of a concert. They may talk of *measure, of movement, of melody, of harmony*; and may endeavour to prove, that the performance, which, perhaps, has given me disgust, was nicely calculated as to its several notes, was perfectly geometric all in its concords, and a masterpiece in point of execution. It may be so:—but nature furnishes her pupils with much simpler and more unerring rules. She tells us, that music is the language of sentiment, and that its true character is lost, when it aims only to tickle the ear, and does not address itself forcibly to the heart.

10. If I was to own I could not be pleased with a speech or discourse I did not understand, my confession would have nothing singular in it, nor would my taste be called in question: but were I to say the same thing of an unmeaning, unaffecting piece of music, a musician might ask me, whether I thought myself qualified to enter into the merit of a

piece composed with the greatest care? I would venture to reply, yes; for the business of music is to raise strong emotions. I do not pretend to calculate sounds, and their relation to each other, or to our organs; neither do I undertake to give a lecture on the vibration of chords, and the elements of harmony: I leave these researches to the learned theorist: they are like the logical parts of a speech, the force of which I may feel, without all the jargon of pedantry: it is enough for my purpose to observe, that, as music speaks to me in tones, the language is natural to me; and if I cannot discover any meaning in this or that particular tune, art has perverted nature, instead of improving it. We should judge in the same manner of a piece of music as of a picture, in which we see strokes and colours, and a well executed design: the piece strikes---it affects us. But what would be said of a painter, who should content himself with laying on his canvas a number of bold strokes, and a heap of the most lively colours, without the least resemblance to any known object? The application is very naturally made to a concert, or any other musical performance: though I hear some sweet notes, some masterly modulations of sound; yet, with all these qualities, if it has not a clear, obvious, and determinate meaning,---if it does not breathe the true spirit of sentimental expression, I can compare it to nothing but a prism, which reflects the most beautiful colours, without forming any single image*.

* The curious reader will find the fullest illustration of these points

11. From these observations it will be easily inferred, that I do not wish to lead pregnant women to our theatres, our operas, our public concerts. Yet I am very desirous that they should enjoy as often as possible the delightful recreation of music,---of pure, lively, and impassioned music, to the notes of which the heart beats time---every nerve, every fibre, is in perfect harmony---the blood flows with assenting vibrations;---and health and pleasure, as if in unison, pervade the whole frame. Such gifts, such blessings, though far above all value, are not above the reach of every person in the humblest spheres of life. The fiddle, the flute, or the music of the voice alone, will banish care, will sweeten labour, will often prevent and sometimes expel disease. If you are fond of variety, take a walk into the fields, where you are sure to be entertained by a succession of different performers at every hour from the early dawn till the return of night. In vain would the powers of language attempt to describe, or the powers of artificial music attempt to imitate their rapturous strains. Have you ever heard the lark at break of day, warbling upon the wing,---raising its note as it soars, until it seems lost in the immense heights above,---the note continuing, the bird unseen,---but soon descending with a swell from the clouds,---yet sinking by degrees, as it approaches points in an elegant little French work, published some years since by the able Batteux, and entitled "*Les beaux Arts réduits à un même principe*," I have endeavoured to compress the substance of his remarks in the above paragraph. A longer extract would lead me too far from the main subject.

its nest, the spot where all its affections are centered,---the spot that has prompted all this joy?---Hear, and then tell me, if “Cecilia’s mingled world of sound” can equal the effect in *lifting*, to use the poet’s phrase, your *soul to heaven*, and bringing it back to the fond objects of your love? Have you ever listened to the nightingale at “evening’s peaceful hours”, when all the other songsters of the grove are hushed in admiring silence, or in soft repose? Observe how judiciously the little musician takes his stand for your delight, and for the fuller display of his own talents. Though fond of solitude, and mistrusting the too near neighbourhood of man, yet he is always placed within sight of his habitation, and within reach of his ear. For this purpose he chuses such spots as are the best conductors of sound, in order that their echoing may give action to his voice, which is distinctly heard at the distance of a mile. With what exquisite grace and correctness are all the tones modulated! The note at one time drawn out with a long breath,---now stealing off into a different cadence,---now interrupted by a break,---then changing into a new note by a sudden transition,---now seeming to renew the same strain,---then deceiving expectation, and making loud bursts of joy succeed the sweetest effusions of plaintive tenderness. He sometimes seems to murmur within himself,---full, deep, sharp, swift, drawling, trembling,---now at the top, the middle, and the

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bottom of the scale! In short, in that little bill seems to reside all the melody, which man has vainly laboured to bring from an infinite variety of musical instruments*.

12. The author of nature has deemed the harmony of sounds to be so necessary to man, that there is not a situation upon the earth which has not its singing bird. The linnet of the Canaries usually frequents in those islands the gutters of the mountains: the goldfinch delights in sandy downs; the lark in the meadows; the nightingale in woods by the side of a brook; the bullfinch in the white thorn; the thrush, the yellow-hammer, the greenfinch, and all other singing birds, have their favorite post. It is very remarkable, that all over the globe they discover an instinct which attracts them to the abode of man. If there be but a single hut in a forest, all the song-birds of the vicinity come and settle round it. Nay, none are to be found except in places which are inhabited. You may traverse the immense forests of Russia, without meeting with one small bird; nor are the notes of the feathered warbler ever heard in the deserts of America. We may observe, even in our island, that nature has not given a musical voice to any one sea or river bird, because it would have been lost in the noise of the waters, and because the human ear could not have enjoyed it at the distance which they are destined to live from the land. Aquatic birds have shrill and piercing cries, by means of

* Pliny's natural history. See also "Etudes de la nature."

which they can make themselves heard in the regions of wind and tempest where they inhabit, and are in perfect correspondence with their noisy situations and their melancholy solitudes*.

13. Let not the earnestness, with which we have enlarged on this subject, be ascribed merely to an enthusiastic admiration of natural music. It proceeds from the fullest conviction of its efficacy in promoting the health of mankind in general, and of pregnant women in particular. We hope that the arguments, which we have advanced in support of this opinion, will be deemed conclusive; and we are also happy in being able to place such of our remarks as have ignorance, prejudice, and fashion to contend with, under the sanction of so respectable an authority as that of Dr. Armstrong,---a writer not less admired in the medical than in the literary world. It is thus he concludes his equally beautiful and instructive poem on health :

- " There is a charm, a power, that sways the breast ;
- " Bids ev'ry passion revel, or be still ;
- " Inspires with rage, or all your cares dissolves ;
- " Can soothe distraction, and almost despair !
- " That pow'r is music,...far beyond the stretch
- " Of those unmeaning warblers on our stage,...
- " Those clumsy heroes,...those fat-headed Gods,...
- " Who move no passion justly---but contempt--
- " Who, like our dancers, (light, indeed, and strong)
- " Do wond'rous feats, yet never heard of grace.
- " The fault is our's ; we bear those mons'trous arts :

* Voyez " Etudes de la Nature," Tom 3.

" Good heavens ! we praise them : we, with loudest peals,
 " Applaud the fool that highest lifts his heels ;
 " And with insipid shew of rapture die
 " Of idiot notes impertinently long !
 "
 " Music exalts each joy, allays each grief,
 " Expels diseases, softens every pain,
 " Subdues the rage of poison and the plague ;
 " And hence the wise of ancient times ador'd
 " One power of physic, melody, and song ".

ESSAY IV.

1. Transition from the management of the temper to external sources of health.---2. Air essential to existence.---3. The vehicle of disease as well as of health.---4. Propriety of flying from swamps or stagnant pools, with a caution against uncleanness.---5. Confined situations to be also avoided.---6. The atmosphere of cities, a floating mass of pestilence and mortality.---7. How to correct, or lessen the evils of a bad situation, with some directions respecting bed-room windows.---8. Opinion of the late Dr. Franklin quoted.---9. Why so many persons feel themselves indisposed after remaining for some time in large and crowded assemblies.---10. Farther remarks on the aerophobia, and the diseases occasioned by the retention of the perspirable matter.---11. Peculiar benefits resulting from the free admission of cool air during the whole state of pregnancy, and at the time of lying-in.

1. **H**AVING laid down such rules for the management of the temper and passions as appeared to us of the greatest practical utility, we shall now proceed to treat of air, diet, and exercise, which being in their own nature more obvious than the influence of the mind, will admit of a much easier and shorter discussion.

2. Of all the external sources of health, air certainly claims the first notice. It is so essential to the existence of every living creature, that the want or obstruction of it for a few minutes will occasion death. This subtile fluid not only acts constantly on the surface of the body, and enters into the lungs by respiration, but pervades every part of the whole machine, and affects even the spirits, which are known to rise or sink according to its various

changes, just in the same manner as quicksilver in a weather-glass.

3. A great deal of learning and ingenuity might be displayed in philosophical observations on the properties of air: but all this would be of little service to the persons for whom the present work is designed: It is enough for them to be informed that, as the air receives and is charged with vapours continually ascending from the waters, the earth, and all vegetable and animal substances, it impresses their qualities on the lungs, the blood, or the other vital parts, and may of course be the vehicle of disease, as well as of health,—may relax, as well as brace the tone of the human body.

4. One of the chief causes of bad air is the corruption of the waters, from which putrid exhalations arise, that readily spread the most malignant infection. Hence the propriety of flying from swamps, marshes, or stagnant pools, in the neighbourhood of which fevers, and agues, and the whole train of contagious disorders are inhaled at every breath. Let no puddles be near your dwelling; nor let uncleanness, that worst affliction of indolence and poverty, pollute and contaminate the air round you.

5. Confined situations are also to be avoided. In such places the unagitated air becomes rank and noxious. Remove therefore from the vicinity of thick forests, and from those immured, unhealthy spots, where the vapours lie, as it were, *strangled*, and where the freshness of the enlivening breeze is never felt.

6. Above all, if you can, do not fix your abode in crowded cities, those vast sepulchres of the human species, the atmosphere of which may be justly called a floating mass of pestilence and mortality.

" It is not air,

" That from a thousand lungs reeks back to thine—

" 'Tis volatile corruption, from the dead,

" The dying, sick'ning, and the living world

" Exhal'd*."

7. But as so few have it in their power to chuse their place of residence, the next care should be to correct or lessen the evils of a bad situation. All persons may be cleanly, if they please; and the little trouble it requires to keep themselves so will be abundantly repaid by its happy effects on their health, and by the comfortableness of their feelings. If motives of convenience or necessity oblige you to live in large, populous towns, embrace with eagerness every opportunity of taking a walk, or ride into the country, especially in the morning, to breathe the pure, the virgin air, which is then impregnated with the balmy essence of the sweetest plants and flowers. Let your apartments be spacious, and dry, airy rather than warm, and exposed to the mid-day sun. Keep your windows open whenever the weather permits, and do not perversely shut out one of the most precious gifts of heaven. I wish I could farther persuade pregnant ladies in particular to let down the upper sash in their bed-room windows, to the distance of at least four or five inches, so as to leave a free passage for

* Dr. Armstrong on Health.

the air, even by night. Cold air is heavy, and therefore descends: warm air, that which you have already breathed, and which is in reality more or less infected by your perspiration, being rarified and rendered lighter, ascends, and is pushed away with its noxious burthen, through the opening in the upper part of your window. If you are accustomed to keep a lamp, or a candle lighted in your bed-chamber, let it be always placed in the chimney: it will otherwise waste the pure air, which is necessary for your existence. But the bad consequences of neglect in this case will be greatly diminished by your attention to the other rule of letting down the upper sash, or sashes, before you go to bed. You will enjoy sweeter and sounder repose---you will rise more chearful and more refreshed, than by pursuing a contrary method, which extreme delicacy first introduced, and which custom, prejudice, and ignorance have too long continued.

8. In order to quiet the fears of some who may be alarmed at the advice here given, and to silence the false ridicule of others who may wish to represent it as a piece of singularity or extravagance, I shall quote the opinion of the late Dr. Franklin on the subject; and I believe every physician of candour and talents will readily acknowledge, that I could not shelter myself under a more respectable authority.

“ The sleeping in rooms exactly closed,” says the celebrated philosopher, “ and in beds surrounded

Dr. Armstrong on Health.

by curtains, has been a great mistake. No outward air, that may come in to you, is so unwholesome as the unchanged air, often breathed, of a close chamber. As boiling water does not grow hotter by longer boiling, if the particles, that receive greater heat, can escape, so living bodies do not putrify, if the particles, as fast as they become putrid, can be thrown off. Nature expels them by the pores of the skin and lungs; and, in a free open air, they are carried off; but, in a close room, we receive them again and again, though they become more and more corrupt. [A number of persons, crowded into a small room, thus spoil the air in a few minutes, and even render it mortal, as in the black-hole at Calcutta*. A single person is said to spoil

* The instance above referred to, of the fatal effects of confined air has been equalled at least, if not surpassed by the following melancholy event, which lately became a subject of judicial investigation at the Old Bailey.

In the latter end of December 1795, 115 fencibles, and five women were put on board a small vessel of 35 tons burthen, then at Jersey, to be conveyed to England. On their passage, it blew with so much violence, and the sea ran so very high, that the vessel shipped a great deal more water than the pumps could discharge. At eight o' clock in the evening the master called to the people then below, and told them it was impossible to keep the hatches open any longer, as the vessel would thereby inevitably founder; but that such of them as thought proper might come on deck---only 7 of the passengers did so, the rest not daring to face the storm, or intimidated by the danger of being washed overboard. The hatches were then battened down; and the tarpaulins laid over them. About mid-night the storm still continuing, the master was alarmed with the cry of

a gallon of air per minute, and therefore requires a longer time to spoil a chamber full; but it is done, however, in proportion, and many putrid disorders hence have their origin."——

9. A little reflection on what this excellent writer has stated with equal perspicuity and force, will remove all surprise that so many persons should often feel themselves much indisposed after remaining for some time in large and crowded assemblies, especially at night, when the number of candles that are burning, and the breath of the persons collected together, concur to exhaust and corrupt the air. In such situations the lungs collapse, for want of pure, elastic air, to fill them out: the heart has not power to propel the blood through the pulmonary arteries: the pulse becomes weak and intermitting: the whole frame is relaxed; and even should no seeds of disease, no pestilential effluvia then lodge or settle on any of the parts so weakened, much danger still remains on removing into cooler air, though necessary for relief, and even for existence. These considerations may have weight with such pregnant ladies as are too much the vo-

fire: he ran to the fore hatchway, and tore off the hatch, and also the tarpaulins and hatches of the main hatchway, on which a very offensive smell issued from the hold. No farther relief was afforded the unhappy sufferers till day-light, when on opening the hatches, and examining the hold, 47 men and 3 women were found dead, the disfigured victims of rage and suffocation, the want of air having rendered them so delirious, that their last moments were employed in acts of the most shocking ferocity—in frantic attempts to maim and mangle each other!

tries of fashion to pay any regard to my former dissuasive against their frequenting theatres, operas, balls, or concerts.

10. After arguing the point philosophically, the Doctor indulges in some pleasant sallies, with the hope of curing people of the *aerophobia*, or dread of air, which, he says, distresses weak minds, and makes them chuse to be stifled and poisoned, rather than leave open the window of a bed-chamber, or put down the glass of a coach. Then, resuming his former strain of seriousness and gravity, he adds: "Confined air, when saturated with perspirable matter, will not receive more. What physicians call the perspirable matter, is that vapour which passes off from our bodies, from the lungs, and through the pores of the skin. The quantity of this is said to be five eighths of what we eat; and that matter must remain in our bodies, and occasion diseases. But it gives some notice of its being about to be hurtful, by producing certain uneasinesses, slight indeed at first, such as, with regard to the lungs, is a trifling sensation, and to the pores of the skin a kind of restlessness which is difficult to describe, and few that feel it know the cause of it. But we may recollect, that sometimes, on waking in the night, we have, if warmly covered, found it difficult to get asleep again. We turn often without finding repose in any position. This *fidgettiness*, to use a vulgar expression for want of a better, is occasioned wholly by an uneasiness in the skin, owing to the retention of the perspirable matter--the bed-clothes

having received their quantity, and, being saturated, refusing to take any more."

11. All the uneasy sensations here described will be prevented by the admission of cool air, and the use of thin and porous bed-clothes, which will suffer the perspirable matter more easily to pass through them. In addition to the comforts of pleasant refreshing sleep, pregnant women will derive other material benefits from a continued adherence to these rules, even at the time of their lying-in, and afterwards. It will afford the most desirable relief in cases of faintness: it will inspire them with new life and strength: it will have a very great effect in condensing the mass of the blood and reducing it into a smaller space, so as to lessen the distention of its vessels, and thereby frequently to prevent, and always to moderate hæmorrhages: nay more, it will be found one of the best preservatives against child-bed fevers, and the like dreadful complaints, which are generally the consequences of impure air, of stagnant animal effluvia, and of excessive, or of checked perspiration.

ESSAY V.

9. Former hint, on the admirable manner in which the powers of digestion are known to vary in the different stages of pregnancy, unfolded; with a detail of rules concerning diet.---2. Prevalence of a sort of luxury in the lowest spheres of life---the pernicious use of strong liquors, and of stimulating, inflammatory, or indigestible food.---3. The pleasures of sensible creatures designed to be the instruments of their preservation.---Experience the best corrective of a vitiated taste.---In what cases suppers may, or may not be salutary.---4. Great contrariety of opinions on the subject of longings.---5. Doctrine of the Ancients founded on a just principle, and encouraged by humanity and sound policy; but soon abused and disfigured by the fairy tales of ignorance and the fictions of imposture.---6. Absurdity of the modern system of total disbelief.---7. Effects of longings rationally accounted for, and the fallacy of the most specious argument against them exposed.---8. Ready compliance with real and involuntary longings enforced.---9. Another cogent reason for speedily gratifying those wishes, however fanciful, which may be suggested by a sort of natural craving.---10. Inference drawn from Dr. Denman's concessions.---11. The question left at issue on the former points.---12. Variety allowed to present her sweetest stores in the advanced stages of pregnancy.---13. Indulgence due to the increasing demands of a child on the mother's constitution.

1. **SOME** hints have been already given with respect to diet; and a few remarks have been made on the admirable manner in which the powers of digestion are known to vary in the different stages of pregnancy, according to the danger arising from excess, or the necessity of liberal supplies for the increasing demands of the child. During the first three or four months after conception,

when there is in most women, as before observed, a strong tendency to an extreme fulness of the habit, and when the growth of the *fœtus* is scarcely perceptible, nature gives the plainest warnings against improper indulgence, by a weakness of the stomach, frequent returns of nausea and vomiting, head-achs, costiveness, and the other symptoms and effects of indigestion. Temperance, at all times advisable, is peculiarly proper and necessary at such a period. This must not, however, be supposed to imply a total change from former modes of living: but, unless the appetite be very much vitiated, it will direct pregnant women to what is most proper and salutary. They have generally a dislike to animal food; and if induced to eat it, from a mistaken notion of their being then in greater need of such support, they suffer much inconvenience. They will also find spirituous liquors of all sorts, and what are absurdly called *cordials*, still more pernicious. On the contrary, they have a natural relish for vegetables, fruit, and every thing cooling, which they eat and drink with avidity, and in which they indulge without prejudice*. Let not the arts of cookery be employed to render poisons delicious. Boiled vegetables, ripe fruits, and the sweet gifts of the dairy, want no artificial seasoning. Should a particular desire for animal food be occasionally felt, it may be gratified with safety, provided the meat be of the young and tender kind. Veal-

* Denman's Introduction to the Practice of Midwifery.

broths, jellies, and the like liquids, which afford easy nourishment, and are converted into chyle without any great effort of the stomach, are also very allowable. In short, the chief restraint we wish to impose is that prescribed by nature---the restraint of temperance and sobriety---

“Th’ unbounded taste we mean not to confine

“To hermit’s diet, needlessly severe”---

We are only desirous of guarding pregnant women against the indulgence of a depraved taste;---against the use of such kinds of food as are high-seasoned, or hard of digestion;---and against all excesses of the table, even when supplied with things in their own nature innocent, yet, if taken in too large quantities, equally pernicious with the former.

2. It may appear superfluous to give any admonitions against luxury to such women as live by their own labour, or the small income of whose husbands is scarcely sufficient to afford them common necessities. Yet, in the lowest classes of society, especially in great cities, we often meet with a sort of luxury perhaps more baneful than any which prevails in high life,---a luxury that consists in the intemperate use of strong liquors, to which the miscarriages, the fevers, and the death of so many poor married women in London and other populous towns must undoubtedly be ascribed. Such fatal potions, which, by no great boldness of metaphor, have been called *the drink of*

• Armstrong on Health.

Dæmons,---the liquid fire of hell,---cannot fail to inflame the lungs, to stimulate the action of the heart and arteries, and then leave the relaxed body an easy prey to any disease that may be engendered within, or to any external malignity in the air, which the yawning pores will then more readily imbibe. As to the food of such persons, it is also much to be lamented, that from habit, and from the effect of a vitiated palate, they should be so fond of bacon and other smoke-dried and salted meats, as well as of red herrings, than which nothing can be much more stimulating, inflammatory, or indigestible. The laborious employments of many of these poor women give, indeed, an edge to the appetite, and may so far strengthen the stomach as to enable it to subdue the most stubborn aliment. Yet, why should its powers be exerted in such unproductive efforts? A greater quantity of food is certainly requisite in proportion to the greater quantity of labour: but let that food be of the most wholesome kind: plenty of vegetables, with the addition of a little fresh meat, when keenly demanded, will satisfy every natural craving, and will afford both the mother and child the purest supplies of health and vigour.

3. As the best general rules will admit of a variety of exceptions; and as it would be an endless task to describe the particular sorts of diet, which this or that constitution may require; a great deal must be left, in every essay of this kind, to the reader's good sense and discretion. Our taste, in

its natural unvitiated state, would always perceive the greatest sweetness in the most salutary food. The Supreme Being, whose infinite goodness hath made the pleasures of sensible creatures the instruments of their preservation, informs us by that which is pleasing to the palate what will agree with the stomach and constitution *. But if, from improper habits, we have lost all relish for sweet simplicity, we must attend to the dictates of reason and experience. Pregnant women are most sensible of the immediate effects of proper or improper diet. They should not repeat what they have already found to be the cause of uneasiness or indisposition. The ensuing morning is sure to inform them of any irregularity into which they may have been led the preceding night. Ladies of rank and fashion, who dine at a late hour, should not, upon any account, be tempted to eat suppers. A little cooling fruit will best prepare them for the enjoyment of sweet repose. Working people, on the contrary, who have but a scanty meal in the course of the day, or those who, in the hurry of business, have no time to take proper refreshments, need not fear any bad effects from a moderate supper. We have the authority before quoted †, and the uniform testimony of experience to support us in asserting, that "suppers are not bad, if we have not dined: but restless nights naturally follow hearty suppers, after full dinners. Indeed, as there is difference

* *Emile, ou nouveau système d'Education, tom. 2.*

† Dr. Franklin,

in constitutions, some rest well after these meals : it costs them *only* a frightful dream, and an apoplexy, after which they *sleep till doomsday !*"

4. In the early months of pregnancy, the great tenderness of the *fœtus*, though wrapped up by nature with such kind protecting care, must still expose it to any very violent shocks either of the body or mind of the parent. Marks may then be impressed on its delicate skin by external injuries, and a variety of other causes, but none of them so much to be dreaded as the mother's passions. I have before described some of their fatal effects; but must here touch upon the subject again to shew how far those eager desires, commonly called *longings*, may be supposed to discolour the skin, to alter the form, or to endanger the health of the child. The ancients and the moderns are here at variance : the instances recorded in old books and the doctrines laid down in new ones are in direct contradiction to each other ; the great body of the people are firmly persuaded of the former, and cite a thousand facts to justify their belief : the majority of our medical practitioners declare themselves for the latter ; and will not allow the inferences drawn from such facts, because the manner, in which they are said to have arisen, cannot be explained or demonstrated. Perhaps the truth may be found between these opposite opinions, which, if carried on either side to the extent they naturally admit of, appear to be almost equally dangerous, absurd, and indefensible. Let us examine them without partiality or prejudice.

5. According to the former opinion, "*longing* was not supposed to depend upon the fancy or other circumstances of the mother; but to be a peculiarity in her appetite, produced by the influence of some cause existing in the child. Nor was it supposed that the effect was confined to the simple refusal or gratification of the appetite, however extravagant it was, or however unnatural it might appear; the *longing* of pregnant women was to be indulged, not merely through kindness to the parent, but for the interest of the *fœtus* also. If her wishes and inclinations were not gratified, she might suffer; but the worst consequences were to be apprehended on account of the child, which would either be retarded in its progress, or bear the mark of the thing *longed for* on some part of its body*." These conjectures, wild and fanciful as they may seem, were founded on a principle which no ingenuity can overturn, the influence of the mother's passions, of her strong desires, and unsatisfied cravings, not only on her own health, but on that of the child in her womb. Humanity and sound policy would readily avail themselves of such a principle, and take some pains to extend and inculcate the doctrine, in order to secure to pregnant women those kind compliances, and that tenderness of treatment, which their situation requires. But the well-meant lessons of true philosophy were soon abused and disfigured by the fairy tales of ignorance, and the

* Denman's Introduction to the Practice of Midwifery, vol. 1.

fictions of imposture. Credulous poor women were thrown into a state of the utmost alarm on every trifling occasion; whole families were rendered miserable by the dread of imaginary disasters; and the pretence was often made subservient to the worst of purposes. This excited a spirit of inquiry to examine various instances of flesh-marks, and other dreadful events, which were said to be caused by disappointed *longings*. Some were evidently the effects of external injuries; and in far the greater number of the rest fancy alone could discover any resemblance to the objects whence the impression had been supposed to originate. Similar accidents were also observed in the brute species, and even in plants, unconscious of their propagation or existence. It farther appeared that several children were born with marks on the skin, though their mothers had never experienced any *longings*; and that in other cases, where women had been refused the indulgence of their *longings*, no effect was perceptible in the child, though the mother's imagination had continued to dwell on the subject for a considerable time.

6. The advocates for the new system of total disbelief, proud of having collected so many strong and plausible arguments to combat popular opinion—proud of having exposed in many respects its absurdity and danger, were not satisfied to stop there, but have had the boldness to attack the original principle, of which that opinion can only be considered as an excrescence. They go so far as

to deny any mysterious consent between the mother and the *fœtus*, because it cannot be explained on mechanical principles. Will they for the same reason deny the reciprocal influence of the mind and body? How shall we mechanically account for the simplest and most familiar of all operations, the effect of the will in moving any of the members? The bones and muscles, the cartilages and joints are indeed well fitted to turn this way or that,---to bend backwards or forwards,---and to yield with readiness to every impulse from within: but what mysterious power is it, which gives them that impulse, and puts them in motion at pleasure? Would it be arguing like a philosopher to deny the action of the will, which is displayed in extending or drawing back my arm, merely because I cannot explain its nature, or the principles of command and obedience that are established between it and the passive body? Would it be arguing like a physician or anatomist to deny the absorbing and filtering powers of the *placenta*, that medium of intercourse between the mother and child, because our dissecting instruments have not been able to trace, nor our glasses to discover to us in that organ either lymphatics or glands for performing such wonderful operations? Surely, if we ought to reject the idle tales of credulity and ignorance, it is not less our duty to admit the evidence of indisputable facts, and the force of fair reasoning by analogy. Learned pride may smile at the stories of an old nurse; but I know not whether to treat with ridicule or con-

tempt the pretended philosopher---the man of great sense, but little sensibility, who considers the *longings* of pregnant women as whims and fictions unworthy of regard.

7. It has been very speciously urged by some of those writers, "that, as women do not possess the power of altering the structure of any part of their own body, with which they have an immediate relation, it cannot be thought probable that nature has made them capable of altering, by any passion of the mind, the structure of a body, to which their fluids are not even directly transmitted*." *To alter the structure of a body completely formed would indeed be a very strange effect. The strength of a woman's fancy cannot make a hand grow where a foot was placed, or transfer an eye-ball to the organ of hearing: but they can so far destroy the mechanism of her body as to bring about its decay and dissolution: they can, and frequently do, produce disease and death: even in their slighter and more transient effects, they alter the colour and complexion*---

"Hence the lean gloom that melancholy wears,---

"The lover's paleness,---and the sallow hue

"Of envy, jealousy,---the meagre stare,

"Of sore revenge:---the canker'd body hence

"Betrays each fretful motion of the mind†."

If such be the changes, which the passions can produce on the full grown, healthy, and vigorous body of the mother herself, what effect must they

* Dr. Hamilton on the the Management of Female Complaints.

† Dr. Armstrong on health,

not have on the weak and extremely delicate embryo in her womb? It is not only *probable*, but *certain*, that they occasion flesh-marks---that they sometimes distort the features of the child,---alter its shape,---derange its limbs,---and disorganize the very structure of its brain. Idiots, monsters, and several instances of partially discoloured and deformed infants, where external violence has not occurred, leave no reasonable doubt of the cause of their misfortune.

8. In order therefore to guard against the evils which may arise from implicitly adhering to the old or to the new system, let us pursue a middle course between the opposite extremes. We hope we have demonstrated, to the satisfaction of the candid and unprejudiced, the influence of the passions on the health both of the parent and child. Let us then, in the first place, consider *longings* as we would any other vehement desires, the gratification of which would give much pleasure, and their disappointment occasion proportional pain. It will not be said that pleasure and pain are matters of indifference, especially in the pregnant state, when the sensibility of the mind as well as of the body is so much increased. What is the eager pursuit of any object, but the effect of a sort of *longing* for the enjoyment of it? Do we not readily assist a friend on such occasions, if it be in our power? and does not a woman's situation give her still stronger claims to tender regard? But it may be said, that the thing she requires sometimes appears

in its own nature trifling, useless, or whimsical. Consider how many of the fondest objects of pursuit in life are equally so; and shall a clay-cold head, or a lukewarm heart be allowed to prescribe rules to the fancy? The point to be decided upon is not the intrinsic excellence of the thing desired, but its relative value to the person who *longs* for it, and the cruelty of letting her pine for what perhaps may be very easily procured. This motive alone would secure, at least from the feeling part of mankind, a ready compliance with those *real* and *involuntary longings*, which do not arise from affectation, extravagance, or caprice. A woman of sense and delicacy is incapable of abusing such indulgence.

9. Let us now revert to what we have before said of the state of the stomach in the early months of pregnancy;---its immediate sympathy with the changes which the womb then undergoes;---the uneasiness or disorder it feels from excesses of every kind, and from improper sorts of meat or drink;---in short, the numberless hints for the regulation of diet, which nature then gives through the medium of that organ and of the palate.* Why should not *longing* be considered as one of these salutary admonitions? When the powers of digestion are so well known to vary according to the plenitude of the mother's habit, or the increasing wants of the child, can it be a matter of surprise that the appetite should loathe particular sorts of food, and *long for others*, or that the stomach should reject the former, and retain the latter, which, though

* See pages 24, and 49.

seemingly fanciful, are suggested by a kind of natural craving? An effect somewhat similar is known to take place at other times, not only in women, but even in men, when their stomachs are weakened or disordered by intemperance, illness, or any accidental cause. They often nauseate what may be thought wholesome, and discover the utmost avidity for what may be deemed improper. But this unaccountable craving, when it often recurs, or steadily continues, should be always gratified. Death in many cases may be the consequence of a rigid prohibition; and the instances are without number of persons who have been recovered from the most hopeless state by disobedience to the doctor's commands, and by being freely indulged in what they so ardently desired. Here then we find another very cogent reason for speedily gratifying a pregnant woman's *longings*, the violence of which, as well as the pain, and the danger of disappointment or delay, are greatly increased by the exquisite sensibility of her condition.

10. Even Dr. Denman, though he doubts the existence of any mysterious consent between the parent and the *fœtus*, admits "that something, however, is to be granted to *longing*, considered as an appetite depending upon the constitution, of a certain state of which it may be esteemed an indication." "If," continues he, "we believed the doctrine, that diseases and tendencies to them were produced by an excess of acid or alkalescent humours, we might readily understand why one

pregnant woman prefers the most savory and high-seasoned food, and another acid fruits, and cold water; and why they might both be indulged, not only without prejudice, but with advantage, as has been frequently observed in the delirium of fevers from a similar cause. The appetite, unsophisticated by bad habits, will probably never mislead us as to the quality of our food. It may rather be esteemed a guide implanted in us by nature, which we shall never err in following with discretion *." On first perusing this very candid remark, I could not help feeling emotions somewhat similar to those of the Athenian, who said that Jupiter never appeared to him so great as when he saw Euripides in the act of adoration. In the same manner, I may truly assert, that I never had a stronger conviction of the indisputable influence of *longings*, and of the physical necessity of paying a serious regard to them, than on finding Dr. Denman obliged to make so plain a concession in their favour.

11. It would be easy to bring many other arguments in support of the doctrine here laid down, and to cite a variety of cases, where disappointed *longings* have been productive of the worst effects: but I trust that what I have already said on the subject will be enough to convince every person of candour and humanity; and ten times more would not be sufficient for those who have neither: so here I rest it.

12. A few remarks remain to be made on the latter months of pregnancy, the period that follows

* Introduction to the Practice of Midwifery, vol. 1.

quickening, or the ascent of the womb into the cavity of the *abdomen*, when the existence and growth of the child are more perceptible, and when its demands also for larger supplies of nourishment are more importunate. We have before observed how admirably nature invigorates the powers of digestion to answer those increasing demands. The stomach becomes less liable to be disordered: its functions are performed with ease and effect: the appetite is keener, and can be safely indulged. A more liberal mode of living seems therefore allowable, and even necessary, attending only to the general rules already given concerning the choice of food, but eating as freely and as often as the appetite is found to require. Costiveness, which before was owing to a certain debility of the stomach, may now be the consequence of its increased or more vigorous action, preparing, as is very probable, a larger proportion of blood than usual from the same quantity of food, and thereby rendering the contents of the intestines coarser and harder*. Inanity must in these cases be more injurious than a little excess, provided always that you feast only upon such things as are known to be equally cooling and nutritious. We cannot too often recommend boiled vegetables and ripe fruit. Milk is also very wholesome, but no production of nature contains so much nourishment, within the same space, as an egg. The best method of cooking

* Hamilton on the Management of Female Complaints.

eggs is to boil them in the shell, and not longer than two minutes. They will otherwise become hard of digestion and inflammatory. We need not repeat what we have said in favour of jellies, veal-broth, and animal substances of the young and tender kind. The bill of fare may be enlarged rather than contracted in the advanced stages of pregnancy; and variety may be allowed to present her sweetest stores to the taste and fancy, but without the aid of artificial provocatives.

13. At this latter period also, there is less occasion for restraint with regard to suppers. The demands for nourishment, made by a thriving child on the constitution of the parent, are not intermitted by night. Emptiness, or a want of proper supplies, will cause uneasy sensations in bed, and often prevent sleep. The appetite, therefore, if keen or craving, may be very safely gratified with fruit, eggs, or any other light food, and easy of digestion. But meat suppers must never follow a late or hearty dinner. Dr. Denman makes a very judicious observation on that restlessness in the night time, which is generally troublesome towards the conclusion of pregnancy, and which he considers as arising from the child's strenuous demands for sustenance. "It is remarkable," he says, "that those women who suffer most on this account, though reduced in appearance, bring forth lusty children, and have easy labours. But if the mother has little uneasiness, and grows corpulent during pregnancy, the child is generally

small ; and, if the child should die before the time of parturition, the inquietude entirely ceases. In the first case, the absorbing powers of the child seem too strong for the parent ; but, in the latter, the retaining powers of the parent are stronger than the absorbing ones of the child ; so that, on the whole, it appears natural that women should become thinner when they are pregnant."

ESSAY VI.

1. Generally received opinion respecting the nature and degree of exercise proper in pregnancy.---2. Instinct of the brute species opposed to fanciful speculation, and our own feelings proved to be a better guide than the caprice of others.---3. Healthy plan pursued by women engaged in rural employments.---4. Affecting picture of the victims of toil and poverty in great cities.---5. Luxury not a more fatal enemy than indolence—A few hints to ladies of fortune on modes of exercise and fashions of dress.

1. **E**XERCISE and temperance are universally acknowledged to be the best means of preserving health: exercise sharpens the appetite, and temperance prevents the abuse of it. But a great difference of opinion prevails respecting the nature and degree of exercise proper for pregnant women. Some writers of no small reputation have asserted, that, in the early months of pregnancy, the exercise should be very moderate, but might with great safety be increased in the latter months; and this notion has unfortunately gained ground in the fashionable world. I should therefore feel the utmost awkwardness and timidity in venturing to advance a contrary doctrine, did I not consider that the weight of authority, and the prevalence of any opinion are as light as air, when opposed to the dictates of nature, to the testimony of experience, and the conclusions of fair reasoning. *I have a great esteem for Plato---I have a great esteem for Socrates---But I have a still greater esteem and reverence for truth.*

2. In every thing which respects the preservation of life, the instinct of the brute species is more unerring than the fanciful speculations of man. Let not vanity or conceit hinder us from attending to the quadrupeds in our fields and parks. Acting, as *they* do, under the guidance of nature, they appear to suffer very little inconvenience when they are with young, except what arises from mere increase of bulk. Their common pursuits are neglected; the gregarious disposition, that fondness for going together in herds and flocks, is suspended; and, if left to their own inclinations, they gradually lessen the exercise they use as they advance in pregnancy. *We* shall find the same method of proceeding the most advisable and salutary. For some time after conception, the signs of pregnancy are very doubtful; nor are we sooner sensible of fatigue than at any other period.-----What then should direct us to make any change in our usual exercises? They may be continued, for at least four months, not only with safety, but with the utmost benefit. The delicacy of our sex is a sufficient check upon all immoderate, or violent exertions. When the contents of the womb begin to increase very perceptibly, the same degree of exercise, which we before enjoyed with pleasure, will now make us faint and weary;---a strong hint to diminish it. Our own feelings will direct us better than the caprice of others; and no subtlety of argument should induce us to believe, that nature in

this case alone deviates from her uniform principles of action, and requires us to exert ourselves more, in proportion as we are less capable of it, or, in plainer words, to run the faster, the greater weight we carry. "If," says Doctor Denman, "there has been indulgence in improper habits, or if exercise has been neglected at all other times, there is little cause to expect advantage from unfit and extraordinary efforts towards the conclusion of pregnancy, as no other end can then be answered by such conduct but that of disturbing the frame, and bringing on premature labour."

3. Women who follow very hardy occupations in the country, and to whom what fortune has denied in point of affluence, is abundantly compensated by a large stock of health, feel no inconvenience from their usual employments in the early months of pregnancy: they seldom or never miscarry: they have few complaints: they require no indulgence, but a little abatement of their toil, when they become unwieldy; and as the womb partakes of the general vigour and activity of the whole frame, it expels its burthen in due time with much ease; and the recovery from childbed is so rapid as scarcely to leave any remembrance of its having been a state of pain or labour. Such persons want no instructions concerning exercise. They have nothing to fear but extraordinary shocks either of body or mind,--the tempest of the passions, or external violence. They know very well, and therefore

need not be cautioned against the bad consequences of any straining efforts,---any over-exertion in lifting or carrying heavy weights,----in a word, any painful and exhausting task. They follow simple nature in every thing, even in regulating the proper periods of labour and of rest. They go to bed with the lamb, and they rise with the lark: their slumbers are sound, and their wakings chearful.

4. It is not so with poor married women in great cities. The impure, confined air they breathe relaxes the frame and destroys its activity. What they eat, what they drink, is often improper, sometimes pernicious. Their meals and their hours of rest are equally irregular. Night is too often changed, as it were, in to day; and the victim of poverty is forced from her bed at one, two, three, or four o'clock in the morning, according to the caprice, or the sordid views of some selfish, unfeeling, marble-hearted employer to labour for sixteen or eighteen hours at the washing-tub,---to waste all the necessary supplies of strength and of life in unseasonable, unhealthy, and long continued toil! Is it possible that one woman can treat another with such cruelty, and yet lay claim to the title of a good housewife! Is it possible that you can sleep while you are robbing a fellow creature of needful repose? Can you view with pleasure the work done, when you consider that a miscarriage may be the consequence, or that you may be in reality the murderer both of a parent and a child? Perhaps your unfortunate

hireling is obliged to conceal her condition, in order to get employment;---but, how wretched is the excuse, 'that you did not know her to be pregnant? Let her condition be what it may, surely the day is long enough for the toils of cheerless poverty, without adding thereto the night also. Do not prescribe such hard terms to those whom hunger and distress leave at your mercy. Your tasks should be moderate, and your pay liberal. The example of others is no reason for your continuing a practice inconsistent with humanity. It is a sort of domestic slave-trade, the abolition of which will do equal honour to your heart and your understanding.

5. From what has been said on the subject of exercise, ladies of fortune will easily perceive, that luxury is not a more fatal enemy than indolence. They both produce nearly the same effects: they tend to increase, in a state of pregnancy, the natural disposition to fulness: the system is loaded: the blood loiters in its course: the juices, retarded in their circulation, stagnate and grow foul: the whole body becomes languid and inactive: the powers of the womb in particular are enfeebled or perverted; and various disorders, abortion, or long, severe, and dangerous labours are the usual consequences. To prevent these, pregnant ladies must not only avoid all excesses of the table, but must also resist the soft allurements of lazy unnerving indulgence.

" Oh ! listen not to that enchantress East,

" With seeming smile : her palatable cup

" By standing grows insipid ; and beware

" The bottom, for there's poison in the lees.

“ What health impair’d, and crouds inactive maim’d !

“ What daily martyrs to her sluggish cause* ! ”

Unless, therefore, you are desirous that you yourself and the child in your womb should be numbered among these victims, you will frequently walk or ride out in an open carriage, so as to unite the advantages of fresh air with those of agreeable exercise. Any former habit of indolence must be conquered by degrees, and not by a sudden change to violent or fatiguing exertions. Your feelings, as I have already hinted, will inform you of the propriety of lessening your active exercises as you advance in pregnancy ; but short, slow walks, or the gentle motion of a carriage, may be continued to the last. In addition also to the remarks before made on the present mode of dress, I must here observe, that the disuse of stays and of high-heeled shoes is not less favorable to proper exercise than to the display of grace and elegance. Caprice, false taste, or the desire of concealing some personal deformity may endeavour to bring them again into fashion : the attempt may even succeed, in spite of every argument dictated by common sense and by a rational attention both to health and beauty : yet I trust that the possible prevalence of such absurdities will never tempt any pregnant lady to put herself and her child into a whalebone press, or to totter about upon stilts, at the risk of the most alarming injuries.

* Epistle against Indolence.

ESSAY VII.

1. No idea of encouraging domestic quackery, in making a few remarks on the diseases to which pregnant women are most subject.---2. Health and sickness separated by very thin partitions.---3. Different treatment of feverish symptoms in weak and in plethoric habits.---4. Enlargement of, and shooting pains in, the breasts.---5. Breeding sickness---In what cases emetics, bleeding, or opiates may be deemed necessary.---6. Eggs, jellies, and the like substances, as well as the use of light stomachics advisable in habits of extreme delicacy.---7. Confinement to an horizontal posture recommended, when the stomach is violently disturbed.---8 Heart-burn---its causes and cure.---9. Complaints in the bowels.---10. Costiveness to be equally attended to.---11. Danger of neglecting the calls of nature---Retroversion of the womb.---12. Its bearing down.---13. Remark of Dr. Clarke's on the retroverted state of the womb.---14. Stranguary and incontinence of urine:---15. Hysteric and fainting fits.---16. Convulsions.---17. Uterine hæmorrhages.---18. Smaller effusions of blood from the passage or from the orifice of the womb.---19. Very opposite modes of treatment to be had recourse to in different cases. 20. Fatal effect of cordials. 21. Summary notice of other complaints. 22. Palpitation of the heart. 23. Irritating inefficacy of blisters, and the quackery of boasted pectorals for the relief of a teasing cough and breathlessness. 24. Pains in the back and hips. 25. Attacks of the cholic. 26. Distention and soreness of the abdomen. 27. Dropsies. 28. Cramps and remarkable enlargements of the veins. 29. Swellings of the lower extremities. 30. Strokes of the palsy. 31. How to moderate painful symptoms of the piles, and to prevent their bad consequences.---32, *Fluxus Albus*. 33. Spots or blotches in the skin, and a real jaundice. 34. Head aches and giddiness, 35. Restlessness, inquietude, or the frequent interruption of repose, 36. A more than usual degree of care and tenderness recommended in all medical experiments during pregnancy.

1. **T**HE plainest truths are often the most neglected; and though every body knows how much easier it is to prevent a disorder beforehand, than to cure it afterwards, yet the certain means of preserving health are far less regarded than precarious contrivances to restore it. This, however, has not discouraged me from laying the chief stress on the proper management of the mind, and on the very interesting, though familiar subjects of air, diet, and exercise. A due attention to these will preclude the necessity of prescriptions and remedies. I am also very little inclined to encourage the practice of domestic quackery, even in cases where the aid of physic may be absolutely requisite. The same complaint is so variable in different constitutions, and different complaints so nearly resemble each other in the same constitution, that the propriety of taking any particular medicine, or of having recourse to a particular mode of treatment, in dangerous cases, should always have the immediate sanction of some person of sagacity and experience. If I venture, therefore, to make any remarks on the diseases to which pregnant women are most subject, it is chiefly with a view of relieving them from unnecessary alarms, and of teaching them to distinguish between complaints that are slight, temporary, and easily removed or alleviated, and the serious occasions that may arise for medical advice or assistance.

2. In describing the important changes in the habit, which follow conception, we could not but

admire the tender solicitude and vigilance with which nature, from that moment, gives the quickest warnings of the approach of every danger. If we neglect them, we must blame ourselves for the consequences. But though the exquisite sensibility of the impregnated womb, and the readiness with which the whole body is affected by its influence, are thus designed to answer the purposes of seasonable and salutary admonition; yet, they also tend to aggravate the symptoms of any previous, or any incidental complaint. This is not the effect of diminished strength, but of increased delicacy; and perhaps there is no other state of the human frame in which the remark made by one of our poets on the near alliance of wit and madness can be more justly applied to health and disease, the extremes of the one and the beginnings of the other being separated by very thin partitions indeed. Let us endeavour to mark the nice boundary between them, and, referring to our former account of the different signs of pregnancy in its several stages, shew how they may sometimes become the indications of severe illness.

3. It has been already observed, that the ceasing of the *menses* is one of the never-failing consequences of conception, and is often accompanied with appearances of a feverish tendency. These, if not in an excessive degree, will be removed by perseverance in the temperate, cooling diet, which we have so earnestly recommended. But should the indications prove obstinate or violent, bleeding at

proper intervals, and in quantities suited to the constitution, will be advisable. When the febrile symptoms appear in persons of weak habits, and with a pale complexion, a different method must be pursued. The diet should be more nutritious, yet light; and, after freeing the habit from any load of inactive fluids by means of an emetic and a gentle purge, strengthening medicines will have the happiest effect. As to any changes in the complexion, sometimes florid, sometimes pale, we need only observe, that the bloom of health is easily distinguishable from the flush of disease.

4. The enlargement of the breasts, and shooting pains in them, which are often troublesome, especially to jolly women, in the early months of pregnancy, proceed from the suppression of the *menses*, from the remarkable connection between the womb and those parts, and in no small degree from the overflow of great good health and a luxurious manner of living. Temperance is here again the best remedy; to which must be added, in cases of evident plenitude, the occasional use of the lancet, and mild laxatives, if ripe fruits and boiled vegetables should not remove the inflammatory symptoms and costiveness. The breasts must be kept quite free from any external irritation. A piece of soft flannel, or, what is still better, a waistcoat of fine fleecy hosiery will be found a much more comfortable covering than the galling pressure of stays. A little sweet oil made warm and rubbed gently on the breasts every night and morning will

also relieve the uneasiness excited by hard and painful swelling.

5. A disordered state of the stomach is one of the most frequent complaints to which women are liable in the early part of pregnancy. The cause and the effects have been already explained*. As the powers of digestion are then much impaired, gross food of every kind is to be carefully avoided, and the stomach must never be overcharged. But the greatest temperance will not always prevent nausea, sickness, and vomiting. This, however, is sometimes serviceable, by the discharge of much noxious matter; nor is it proper to restrain it by saline draughts, magnesia, mint-water, or the like ordinary means, unless it should be so violent as to reduce the strength of the patient, or to excite just apprehensions of other untoward events. Even then care should be taken to procure stools, or worse consequences may be expected than those which would have arisen from the vomiting. When there is a nausea or inclination to vomit, without any evacuation, a gentle emetic is highly proper. If the tongue be at the same time foul, and the breath extremely foetid, from fifteen to twenty grains of Ipecacuanha may be given once or twice a week, or even oftener, should the urgency of the symptoms require it. This will affect the body much less than natural, unassisted straining; and the safety as well as the efficacy of emetics, in a state of pregnancy, can be

* See page 18.

no longer a matter of doubt or conjecture. In plethoric habits the act of vomiting may render bleeding necessary, though the disease or state of which it is a symptom may not require that evacuation; and in cases of very violent reaching, when other sedatives fail, opiates may be discreetly tried. The common opium plaister, or a piece of folded cloth moistened with the tincture of opium, applied to the pit of the stomach, has often afforded great relief, after internal medicines of the highest estimation had proved ineffectual. But a little of that inestimable ingredient patience will be found of still superior utility; for, in spite of every effort of art, this *breeding sickness*, as it has been called, will sometimes continue till the period of quickening, after which it generally disappears.

6. In weak and extremely delicate habits, some deviations from the method just recommended are necessary. Bleeding, for instance, would be improper; nor is so rigid a system of abstemiousness to be pursued. Eggs, jellies, and such other substances, whether solid or fluid, as contain a great deal of nutriment in a small compass, and are easily converted into chyle, may be used freely. Two or three glasses of wine after dinner are also allowable; and the bark, or any other light stomachic bitter should be taken every day in small quantities.

7. Persons subject to this complaint find it most troublesome in the morning. This is sometimes the effect of improper indulgence in suppers the night before; but it may also be owing to the change of

position which then takes place. The patient may not have the least sense of uneasiness or disturbance of the stomach, while she is reclined in bed; but the moment she gets up, unless she is careful to bring the body erect by rising slowly, the symptoms come on, and continue till she lies down again. Hence, confinement to an horizontal posture is found both necessary and useful, not only when the stomach is violently disturbed in consequence of pregnancy, but from many other causes.

8. The heartburn is another uneasy sensation, in some cases arising from the consent between the stomach and the womb, but more frequently caused by an accumulation of sharp humours secreted in the former. Nothing can contribute to it so much as the pernicious use of spirits and of all fermented liquors, though they may seem to afford a momentary relief. Sleeping in an erect posture after a full meal has also a bad effect; and as we have before said so much on the subject of food, we need not here repeat our prohibition of such as is salt, high-seasoned, or otherwise hard of digestion.--- When the heartburn is attended with a constant desire to hawk up phlegm, a gentle emetic is the most effectual remedy; and, should the disposition to it originate in the debility of the powers of digestion, such means are to be used, and such medicines given, as promise to restore and invigorate them. A tea spoonful of the bark taken twice a day in a small glass of port wine, or in jelly, is pre-

ferable to any thing else, if it be found to agree with the stomach: if not, ten or fifteen drops of the elixir of vitriol in a glass of spring-water may answer the purpose; but it must be continued twice a day, in the same manner as the bark. The various kinds of absorbent earth, testaceous powders, prepared crabs eyes, magnesia alone, or mixed with rhubarb, lime-water, or small doses of saline medicines, are also of great efficacy in abating the sense of burning pain, in altering the properties of the fluid collected in the stomach, or in carrying it off by easy stools. But, if the internal sense of heat be not accompanied with much spitting, nor with any acid eructations, the white of an egg mixed with a little sugar and water will be found an excellent palliative.

9. When the stomach is so liable to be out of order, it is no wonder that the bowels should be often affected. Complaints in the latter may also be supposed to arise from their own inert action, and from the pressure of the increasing bulk of the womb on the *rectum*, or straight part of the intestinal canal. *Looseness* is the frequent effect of all those causes; but the mode of treatment must be varied and adapted to the specific occasion. If there be signs of disturbance in the stomach, from any excess of the table, or from a redundancy of offensive humours, gentle emetics must be had recourse to. These should be followed by moderate doses of magnesia and rhubarb, two or three of which will be commonly sufficient. In such cases opiates

or astringents might prove injurious, and tend to increase the disordered state of the stomach and bowels. Bleeding is advisable only in case of any feverish symptoms. If there be much pain in the bowels, or frequent efforts to go to stool, with little or insufficient evacuations, the bitter purging salt, either alone or mixed with rhubarb, ought to be given, and occasionally repeated, according to the continuance of the pain in any stage of the disease. Should the complaint remain after the evacuations, opiates and mild astringents are very proper. If the pains in the bowels and the frequent straining at stool be occasioned by the irritating pressure of the womb on the straight-gut, and not by any disorder of the stomach, clysters composed of a decoction of linseed, or of flour and water boiled to the consistence of thin starch, or of mutton broth, to any of which about fifty drops of laudanum may be added, will prove no less comfortable than efficacious. The irritation in the *rectum*, and the violent strainings it often excites, require the more immediate care, as they may become the cause of abortion. Emetics, by relieving the present inconvenience, and by changing the seat of the irritation, will often prevent any ill consequences: but the greatest reliance in such cases is to be placed on opium, in any of the usual forms, especially in clysters.

10. Costiveness deserves no less attention than the former complaint, though it is neither so often felt, or quite so much to be dreaded in the early as

in the latter stages of pregnancy. During the first three or four months, it is chiefly owing to errors in diet and consequent indigestion, as well as to the sedentary, inactive habits, in which too many are apt to indulge. Those who can reconcile themselves to the equally pleasant and salutary mode of living which nature has kindly pointed out, and who take proper exercise, will seldom feel either the present pains of costiveness, or its remoter bad effects, among which head-aches, fevers, and even abortions are justly enumerated. But when by luxury and indolence they invite the evil, they must have recourse, without delay, to emollient clysters, and then to mild cooling aperients, of which the best is the bitter purging salt, dissolved in pure water, or in simple mint-water. This will often stay upon the stomach, when things less obnoxious to the taste are instantly rejected. A timely application of these means, with the aid of a vegetable diet, will seldom fail producing the desired effect. If, through ignorance or fatal neglect, costiveness be suffered to continue for several days, the *fæces* will sometimes collect in so large a quantity, and become hardened to such a degree, that they cannot be expelled by the common action of the intestines, or by any gentle purgative. A skilful practitioner must be called in, as great danger may arise from the use of strong, forcing medicines. Should these be improperly persisted in, a small quantity of the *fæces* in a liquid state, escaping by the sides of the intestine, may seem to promise suc-

cess. But this often turns out a fatal delusion. The coarse contents increase both in quantity and hardness; and, by the effect of the long and fruitless action, the adjoining parts are inflamed, and a mortification sometimes ensues. A judicious operator knows how to facilitate the expulsion of the indurated *faeces* without the risk of such experiments, and afterwards to cool and cleanse the irritated canal with suitable injections. It must here be observed, that the effects of costiveness now described occur most frequently in an advanced state of pregnancy, when to the other causes are added the pressure of the enlarged womb on the bowels, and perhaps, the vigorous action of the stomach, preparing at that time a larger proportion of blood from the same quantity of food, and thereby rendering the contents of the intestines coarser and more solid*.

II. As we are on the subject of irregularities in the common evacuations, we must take this opportunity of cautioning pregnant women against being inattentive to the calls of nature. Delays are often very injurious; and therefore motives of false delicacy should not prevent ladies from retiring out of company upon such occasions. Improper restraint may, among other bad consequences, terminate in a suppression of urine, which, when the womb is of a certain size, that is about the third month of pregnancy and before its ascent out of the cavity of the bason, becomes the cause of its dis-

*. See page 44.

placement, or change of position, called in medical language its *retroversion*. The various circumstances attending this disease, and the safest method of treating it, are fully explained by Dr. Denman in his *Introduction to the Practice of Midwifery*, and by Dr. Clarke in his *Essays on the Management of Pregnancy and Labour*. I would readily insert the substance of their remarks; but the clearest instructions on this head could be of little advantage to the patient, or to her ordinary attendants, as the dexterous use of the *catheter* is necessary, which makes the assistance of a well-informed and expert practitioner indispensibly requisite. The only service I can here render to my female readers is to warn them of the first symptoms, that they may apply to proper persons for immediate relief. As a fulness of the bladder is in all cases the pre-disposing, and in most the occasional cause of the complaint, an uneasiness from the suppression of urine is soon felt, with a sense of painful weight at the back part of the bason, accompanied by frequent unnecessary calls to stool. The violence of the pain gradually increases, so as to produce strainings like those which occur during labour; and if timely relief be not obtained, an inflammation of the bladder will take place, and bring on a fever, convulsions, and death. In some cases it has been known to burst, and thereby to put a speedier period to the sufferings of the unfortunate victim.

12. There is scarcely a possibility of mistaking the painful pressure caused by retroversion, and a

few of its other symptoms for the effects of a complaint well known by the name of a *bearing down*, that is to say, a descent, or a subsiding of the womb lower than its natural situation; to which many women are subject at all times, but especially in the early months of pregnancy, as well as towards its termination. Any former tendency of this kind will be very much increased by the position of the womb at such periods, and will be greatly aggravated by costiveness and the efforts it provokes,---by all sudden and violent exertions of the body,---by lifting great weights, and carrying heavy burthens,---by long standing, as poor women do at the washing tub, among whom, and others engaged in the like laborious acts of drudgery in our great cities, the complaint is most prevalent. Unnerving luxury will produce the same effect in high life, by causing an extreme weakness or relaxation of the parts. It may also be the consequence of injudicious management at a former lying-in, of miscarriage, or of irregularity in the *menses*. When the symptoms are slight, and there is no great inflammation, the womb may be easily restored to its proper place, and kept there by the use of the cold bath, by astringent lotions, and a little confinement to a reclining posture on a bed or sofa. Medicines of a strengthening nature should be taken internally at the same time. But in cases of extreme heat and swelling, bleeding, gentle purgatives, and emollient fomentations, as well as a much longer confinement in bed, will be necessary. Even these will sometimes fail; and then

a skilful practitioner may employ pessaries with equal safety and effect. It may be no small satisfaction to young married women, troubled with a descent of the womb, to be assured that, if they are properly treated after delivery, they need be under no apprehensions of a return of the complaint on becoming pregnant again, unless they provoke it by some new indiscretion.

13. It is a very just remark of Dr. Clarke's, that the retroverted state of the womb, of which we must now take some farther notice, hardly occurs before the end of the third month, nor can after the time of quickening; because, in the first case, though the womb might change its situation, it could not remain confined; and, after the time of quickening, the womb will be in the cavity of the *abdomen*. But this should not render pregnant women regardless of a suppression of urine at any other period. It is always attended with pain and danger; and surely it would be madness on any occasion to expose the bladder to irreparable injury, when the use of the catheter affords such easy relief.

14. The stranguary, which is a frequent inclination to void the urine, and a painful discharge of it in small quantities, is not, as Dr. Denman observes, an unusual complaint in pregnancy, in the early periods of which it seems to be occasioned by the consent between the womb and the bladder; but, towards the conclusion, by the mere pressure of the enlarged womb. It is sometimes caused also

by the restraint which women impose upon themselves, from motives of delicacy, when they are engaged in company. Under any of these circumstances, it may terminate in a suppression of urine, when the *catheter* should be constantly employed. It is in some cases necessary to bleed, and in all to procure stools by clysters, or very gentle aperient medicines. The difficulty in making water may be often removed by change of posture, to which the patient is usually directed by her own sensations. Women in an advanced state of pregnancy are also very subject to incontinence of urine, not perpetually, but occasionally, when they stand upright, or have any sudden though slight motion, especially if they have a troublesome cough. Such a weakness is very uncomfortable; but it cannot be attended with any bad effects, if a due regard is paid to cleanliness, and to the expedients which that will suggest. "As far," says the before-mentioned writer, "as either the stranguary or incontinence of urine depends upon the pressure of the enlarged womb, it will only be in our power to alleviate them; for the cause must remain till the time of delivery; and the peculiarity of the complaints may be owing to the compression being casually made either upon the neck or fund of the bladder. It is" he adds, "some comfort to women to be informed, and I believe the observation is generally true, that affections of this kind are never produced, except in those cases in which the presentation of the child is natural."

15. Many of the preceding complaints, those in particular which arise from the disordered state of the stomach, or from the pressure of the womb on the lower parts, disappear after its ascent into the cavity of *abdomen*. But they are often succeeded by other diseases, that require no less skill and delicacy in the management. Before we enter upon this latter period of pregnancy, it may be proper to notice certain effects of peculiar irritability of temperament, which usually appear in the early months, especially soon after conception, and again about the period of quickening, yet may excite occasional alarms afterwards. These are hysteric and fainting fits, to which women of weak nervous habits are very subject even in the unimpregnated state, and the frequency of which must of course be increased by the greater sensibility of their new condition. There is no danger in such fits, nor do they in general require any other means of relief than the throwing open of the bosom, the free admission of fresh air, a glass of cold water, and being extended for a little time at full length in a horizontal posture. If great faintness should continue after the fit, a glass of wine and water may be allowed; but fiery spirits, and strong cordials, as they are improperly called, are to be absolutely prohibited. A strict adherence to our system of temperance, of easy exercise in the open air, and of chearful amusements, will tend greatly to prevent the return, or to abate the violence of these fits. If they are accompanied with strong symptoms of a plethora,

blood-letting, and purgatives, will be proper: but, as is more frequently the case, if there be an evident weakness and relaxation of the habit, instead of bleeding, nutritious food and strengthening medicines, particularly the bark in port wine, will best correspond with the curative indications. Opiates may also be administered, but with great discretion. I am far from being influenced by any prejudice against their occasional use; but as I know that the constantly recurring to them upon every sensation of pain or uneasiness both defeats their effect, and is prejudicial to the child in the womb, I would have them used only in cases of real urgency. What has been so often said of mercury may with greater truth be applied to opium: *it is one of the most powerful and excellent things in the world in skilful hands; in unskilful, most mischievous.*

16 Hysterics have sometimes been mistaken for convulsions, though there is one circumstance, by which any common observer may easily distinguish them, and that is the foaming at the mouth, which accompanies the latter, and never appears in the former. There are many other symptoms peculiar to each; but they differ still more widely in their effects.---Hysterics very seldom give any cause of serious alarm: but when convulsions appear during pregnancy,---when they immediately precede, accompany, or follow the act of parturition,---the life of the patient is to be considered in imminent danger. The nature and treatment of these frightful fits are laid down with so much clearness and

precision by Dr. Leake of the Westminster lying-in-hospital, who farther illustrates his observations by so great a variety of cases, as almost to supersede the necessity of referring to any other work on the same subject. His book will be read with equal pleasure and advantage by all who wish to qualify themselves for the office of midwives : but the most interesting parts of it would be of little use to any other readers. When a patient is seized with convulsions, or feels the approach of the fit, or the symptoms that sometimes precede it, a free circulation of air is absolutely necessary, and nothing more should be done without the advice of some eminent practitioner, who will employ such means as are best suited to the exigency of the case, to the predisposing and the immediate causes of the attack, and to the sufferer's constitution and habit. Where assistance of this kind cannot be directly procured, bleeding, except in cases of inanition, extreme debility, or after immoderate evacuations, may check the progress of the disease. We dare not give any farther instructions for its medical treatment, as the least error in practice might here be of fatal consequence ; and with regard to preventive methods, we can only advise pregnant women to attend to the spirit of our general remarks, and to apply them in each particular instance, according to the dictates of their own experience and good sense.

17. Next to convulsions, there are few maladies so dangerous in the pregnant state as uterine hæmorrhages, or *floodings*, as they are usually called, by

which is meant a preternatural discharge of blood from the cavity of the womb, This is frequently attended with miscarriages in the early months, and with death at a more advanced period of pregnancy. Yet it is less formidable than convulsions, because it may be more easily guarded against, being always the consequence of extreme fulness,---of external injuries,---of very violent agitations, either of body or mind,---of inflammatory fevers,---in a word, of whatever increases in any extraordinary degree the momentum of the blood on the uterine vessels, so as to cause a total or partial separation of the *placenta* from the inner surface of the womb. The mode of treatment also, when hæmorrhages actually take place, is very simple, and often effectual. Many sorts of convulsions, on the contrary, such, for instance, as are owing to some morbid impression originally made on the brain or nervous system, can neither be prevented beforehand, nor cured afterwards. Even when the fits are not mortal, they may so far impair the vital functions, as to be followed by a train of other calamities, the palsy, loss of memory, or idiotism: whereas the only evil that hæmorrhages leave behind them, if they are stopt in due time, is the danger of their recurring from the most trifling accidents. The part injured or affected is naturally more liable to bleed again on the slightest irritation.

18. The principal changes which the womb undergoes soon after conception have been already described *. From the manner in which the mouth,

* See page 3.

or small aperture of that organ is then closed up, we may be satisfied of the impossibility of any discharge from it, except by very violent means. It is not, indeed, unusual for women to have a little blood come away from the *vagina*, or passage to the womb, after walking or standing for a long time, and at the period of quickening. When the quantity is not considerable, and neither has been preceded by any accident, any outward violence, or tumult of the passions, nor is accompanied by any symptoms of fever, no bad consequences need be apprehended. It is only necessary to indulge for some time in a reclining posture, and to avoid much walking, or remaining too long in an erect attitude. But when the frame is known to have received some dreadful shock ;---when the body or mind has been vehemently agitated ;---when heat in the palms, flushings in the face, and the other indications of plethoric and febrile habits appear ;---or, lastly, when acute pains of the back, loins, and lower part of the *abdomen*, occur at the same time, though the discharge should seem moderate, there is just reason to fear that it comes from the cavity of the womb, and therefore requires immediate medical assistance. In the early months of pregnancy, floodings will, in spite of every effort of art, frequently occasion miscarriage ; but, with proper management, there is no danger of the life of the patient, if she is not otherwise unhealthy. The blood-vessels of the womb are then small, and therefore incapable of any very rapid, profuse, or

exhausting discharge. At a more advanced period, they grow much larger ; are replete with blood ;— and may of course pour out a great quantity in a short time : so that, unless the effusion be speedily stopt, the worst effects may follow.

19. Composure both of body and mind is in all cases necessary. The windows of the patient's bedroom, are to be kept open to admit a free circulation of fresh air. Her drinks should be cold and a little acidulated. Thick linen compresses, dipped in sharp vinegar, and applied cold to the loins and lower part of the *abdomen*, but carefully renewed as soon as they grow warm, will also prove of great service. So far any person, however unskilled in physic, may proceed with safety, before the arrival of a medical attendant who alone can judge of the propriety of bleeding, of having recourse to astringents and opiates, or of employing any other internal or external expedients. The great diversity of circumstances, arising from the immediate cause of the hæmorrhage, the degrees of its violence or duration, the ordinary habit, as well as actual state of the patient, and the nearness or distance of the regular period of her delivery, together with a due regard to the condition of the child in her womb, may render very opposite modes of treatment advisable in different cases. The practitioner will find the best instructions on these matters in Dr. Leake's valuable work, from which I shall make a short extract, chiefly for the direction of nurses, or of any other female friend

or servant, whom kindness or duty may bring near a woman in this affecting situation.

20. After observing, that floodings from violent bruises or falls are generally of the worst consequence, from the nature of the injury as well as the loss of blood; and that they are extremely fallacious and fatal in the last months of pregnancy, when they frequently cease for a time, and remove the appearance of danger, but as often suddenly return, and sometimes carry off the patient before there is time to effect the delivery, which is the only expedient in such cases that can possibly save her life; he explains the reasons why hæmorrhages, which disappear for a time, should be so dangerous by their sudden return, and then adds: "Here it is necessary to remark, that pernicious and destructive method of giving *heating cardials*, or *spiritous liquors*, with a view to revive the patient," (when fainting in consequence of the profuse loss of blood) "to which many have unhappily fallen victims, yet is still so prevalent, especially among the lower class, that it never can be sufficiently discountenanced, or its danger too fully pointed out. Many women, during their fainting fits, are plentifully supplied with warm spiced wine, or caudle, with the addition of brandy, which will increase the motion of the blood, and again force open the bleeding vessels; and thus they will alternately continue to flood and faint till the hour of death.---The design of such proceedings may be good; but the consequences will be fatal.. Al-

though nothing is more difficult than to root out prejudices from ignorant minds ; yet, he who will conform to vulgar errors at the expence of his patient's safety, and is afraid to oppose them lest his own interest should suffer, acts below the dignity of his profession and the principles of an honest man. If the most unintelligent of mankind was asked, whether a person over-heated with strong liquor, or one-half chilled to death with cold, would bleed the most profusely on receiving a wound in any part of his body ; surely, he would reply, the former. The case is similar in respect to uterine hæmorrhages : yet, such is the prevalence of custom, that the method of giving cordials is still obstinately followed, contrary to all experience, as well as reason and common sense." The doctor concludes an unanatomical illustration of the truth of his doctrine thus : " Under such circumstances, the best cordials are those fluids which will replenish the empty vessels, without heating the body ; and, therefore, broths prepared from animal substances, jellies, and the like, are of all others the fittest to afford expeditious nourishment, as they will soon be assimilated and converted into blood, without much assistance from the stomach or vital powers, which at this time are much impaired." The justness, perspicuity, and force of these observations do not require, nor even admit of any comment.

21. The other complaints that frequently attend pregnancy, need only be noticed in a summary

manner. Many of them are merely owing to the pressure made by the increasing womb upon the veins, absorbents, nerves, or the other parts that come in contact with it, in the different changes of its situation. Slight affections of the heart and lungs, distention and soreness of the *abdomen*, pains in the back and hips, cholics, cramps, and swellings of the lower extremities are to be regarded as temporary evils, for which patience is indeed the best palliative. When they are acute or very troublesome, endeavours should be used to moderate the symptoms; but they rarely become dangerous. One general remark is of importance---not to take opiates, nor try the effect of bleeding, but with proper advice.

22. Palpitation of the heart, when immediately occasioned by violent exercise, strong emotions of the mind, or any thing that promotes the increased action of the blood, will gradually cease upon the removal or discontinuance of the cause. Fainting may sometimes be the consequence, especially if the exercise, whence the palpitation arose, is suddenly dropt. A gentle motion for a little time, and fresh air are the best preventives of such an effect. If the disorder of the heart proceed from a sort of indirect sympathy with the womb, through the intervention of the stomach, the primary seat of the disease will be the first object of the medical attendant's care.

23. The only relief which a teasing cough and breathlessness admit of, when occasioned by a strong pressure of the womb on the midriff, has been

already pointed out, and a caution given against the irritating inefficacy of blisters, and the quackery of boasted pectorals. But this is not intended to preclude the use of proper means in case of any inflammation of the lungs, or violent pains in the chest. Dr. Clarke is fully justified by experience in asserting that, if a woman with child should be attacked with peripneumonic symptoms, it is of the last importance immediately to attend to them before the approach of labour; "because" says he, "as during labour it is indispensable to the free action of the abdominal muscles, in co-operation with the womb, that the chest should be filled with air, so the attempt to do this in an inflamed state of the lungs must either be ineffectual or greatly injurious*.

24. Pains in the back and hips will often be moderated by change of posture; and the use of fleecy hosiery is also serviceable in such cases.

25. Anodynes must be administered in severe attacks of the cholic, unless it be preceded or accompanied by costiveness, or sometimes by apparent symptoms of a contrary nature, when the utmost delicacy of management is requisite: but this a judicious practitioner, who ought to be directly sent for, will know how to adopt.

26. For the ease of the *abdomen*, if very much distended, it may be gently rubbed every night at bed-time with an ointment made of veal fat melted

*. Practical Essays on the management of pregnancy and labour.

and beat up with a little rose water. The great distention, especially in corpulent women, will sometimes cause a rupture at the navel, which does not admit of any relief till after delivery, when the elastic truss is usually recommended.

27. In cases of a dropsy during pregnancy, gentle palliatives alone must be used, and no forcible means whatever adopted. We are told that a previous dropsy has sometimes been cured by pregnancy: we know that the latter has too often been mistaken for the former: to these general remarks I can add, that, in the course of my own practice, I have met with a few instances, where a *real* dropsy, totally distinct from the natural enlargement of the womb, has, without any previous treatment, completely disappeared upon the delivery of the patient.

28. Cramps, which are often very troublesome, especially by night, may admit of some ease from rubbing the part with flannel, or the application of a little opodeldoc. But more effectual and more lasting relief will be obtained, where the case requires it, by bleeding, by gentle purgatives, and a cooling regimen. This mode of proceeding will be equally proper in case of any remarkable enlargement of the veins of the legs, thighs, and abdomen, which is usually accompanied with the cramp, and may be supposed to proceed from the general fulness of the habit, or from the pressure of the womb impeding the reflux of the blood to the heart. It is sometimes thought necessary to support the veins of any part so affected by a moderate light bandage.

29. Swellings of the lower extremities are occasioned in some instances by too much, and in others by too little exercise; but more frequently by the pressure of the womb on the lymphatic vessels which are intended to drain the fluids from those parts. Moderate exercise, equally removed from fatigue and inaction, rubbing the swelled parts evening and morning with soft flannel or a flesh brush, and the other means so often prescribed in cases of plenitude, cannot fail to lessen the inflammation and uneasiness. In various abdominal complaints, the swelling in the lower extremities may be esteemed a deposition upon them of something superfluous or injurious to the habit, and should be treated accordingly.

30. Cases also sometimes occur of a partial or total paralyzes of the lower extremities. As every stroke of the palsy, whatever part it may effect, is always preceded during pregnancy, by such symptoms as indicate an uncommon degree of uterine irritation, Dr. Denman recommends an attention only to the usual means of abating that irritation, as bleeding, purging, and a cool regimen, not regarding the palsy as a distinct disease, but as a symptom occasioned by pregnancy. His arguments are founded on the nature of the preceding indications, and on these forcible matters of fact, that it is never cured during pregnancy, and scarcely ever fails to leave the patient perfectly free soon after delivery*.

*. Introduction to the Practice of Midwifery.

31. The piles are another complaint, which cannot be completely cured, though the painful symptoms may be moderated, and all bad consequences prevented, during pregnancy. They are generally regarded as indications of too great fullness of the habit; they are also a very usual consequence of long continued costiveness, and may be caused or increased by the derivation of a greater quantity of blood to the parts, or by the pressure of the enlarged womb upon the vessels. Diuretics, as nitre, or the oil of juniper, and gentle laxatives composed of an equal proportion of cream of tartar and sulphur, will afford relief in ordinary cases. Should the patient be feverish, or the piles swollen and painful, moderate bleeding is necessary; or one or more leeches may be applied to those which are most prominent, if they do not discharge spontaneously; and when they are very numerous and tumefied even to strangulation, immediate relief in this respect may be obtained by firm and gentle pressure, between the finger and thumb, of each of them distinctly. To these instructions laid down we need only add two remarks; the first by way of caution against sitting over the steams of warm water, where the danger may be far greater than the expected relief; and the second, an assurance to timid women, that they need be under no alarm from the *bleeding piles*, which, in fact, require no farther attention than to keep the body open, if the discharge be not profuse, which is rarely the case during pregnancy. While moderate, it may be esteemed a critical and

salutary evacuation. The chief inconvenience is the restraint, to which the patient must be subjected, from taking as much exercise as her situation would otherwise require. On these occasions it is advisable to lessen the quantity of food with the diminution of exercise, and to increase the means of domestic amusement, in order to soften the irksomeness of being much confined in a reclining posture.

32. The sexual weakness, or *flour albus*, to which women are at all times liable, may sometimes appear to be much increased in pregnancy; yet, unless the discharge should be extremely profuse, or attended with feverish symptoms, or indications of some other constitutional disease, no bad consequences will follow, nor does it require any peculiar treatment. It is even observed, that women, who suffer much from this symptom during pregnancy, have easy labours. In cases of just alarm, the advice of some good practitioner must be resorted to.

33. Spots and blotches in the skin, which sometimes give pregnant ladies much uneasiness of mind, can only be considered as the eye-sores of beauty; and will disappear of themselves. Should that *yellow fiend*, a real jaundice, attack them, the ordinary methods of cure, gentle emetics or purgatives, which tend to remove all obstructions to the due secretion of the bile, may be employed with perfect safety, if with due discretion.

34. Head-aches and giddiness afford much juster, as well as more frequent cause of complaint than those trifling and evanescent blemishes. They are sometimes owing to a general weakness of the

habit, and a relaxation of the nervous system. They may also arise from strong affections of the womb, from a disordered state of the stomach, and even from its emptiness as well as its repletion. In plethoric patients, a fulness of the blood in the vessels of the brain will often produce such effects. Every attempt to give relief must, therefore, be regulated by a just consideration of the immediate and the pre-disposing causes.

35. Drowsiness, when it does not proceed from the deprivation or want of natural rest, is to be classed with the above affections of the brain, and treated accordingly. But what the French call *insomnie*, an incapacity of going to sleep, restlessness, inquietude, or the frequent interruption of repose by frightful dreams, may, in most cases, be very easily cured, without the aid of medicines. Opiates, the common expedients of ignorance and quackery, are highly improper, except when the complaint is the evident effect of very acute pain, which can be soothed only by such means. In every other instance an attention to the rules before laid down respecting diet, air, exercise, and the management of the mind, will infallibly procure sound, sweet, and truly refreshing sleep. How far inquietude may be owing to the child's increasing demands upon the constitution of the parent, and the departure then allowable from our general plan with regard to suppers, have been already explained. It is scarcely necessary to add, that the proper treatment of any disease which may occasion restlessness

will of course remove this with the other painful or troublesome symptoms.

36. It would be inconsistent with the professed object of this work to touch upon a variety of other disorders, which, though they may occur in pregnancy, are not peculiarly incident to that state. The increased sensibility of pregnant women will indeed aggravate, as I have repeatedly observed, the symptoms of any previous indisposition, or the danger of any new complaint. In such cases, therefore, I can only recommend a more than usual degree of care and tenderness. Even where the imminence of danger, or the acuteness of excruciating pain may seem to require sudden and violent remedies, it must never be forgotten that the trial of medical effect is not then making upon an ordinary subject, but upon the intertwined lives of a mother and child in the most delicate of all possible conditions.

ESSAY VIII.

1. Diversity as to the period or term of gestation observable in different classes of living creatures.---2. Wonderful distinction made by nature between the human species and the rest of the animated creation.---3. Regular time of delivery, with some remarks on the premature expulsion of the *fetus*.---4. Immediate cause of miscarriages.---5. Means of preventing them.---6. Symptoms which precede or accompany abortion.---7. Mode of treatment, when it occurs in the first four or five months.---8. Critical situation of the patient, when miscarriages happen in consequence of any acute disease.---9. Warning against all attempts to produce abortion by artificial means. 10. Miscarriages during the sixth month.---11. What degree of attention may be necessary in cases of premature labour after the sixth month.

1. **I**T is somewhat remarkable that the merely speculative parts of midwifery,---those, the knowledge of which, even if reduced to the utmost certainty and precision, would be of little use in practice, have been discussed with the greatest zeal and diversity of opinion. Such topics afforded full scope for the display of fancy, genius, extensive information, and plausible conjecture. Men of talents could not resist so seducing a temptation. Many of their theories are at least entertaining though not very instructive. Among other subjects of this kind, the causes of the difference as to the period or term of gestation, which is observed in various classes of living creatures, have been sought after with far more earnestness than the little importance of the inquiry deserved. After a great deal of labour

and research, the reason is as much a mystery as ever. No inconvenience, indeed, can arise from ignorance in this respect. The time, during which different kinds of animals carry their young before delivery, is generally known, and that is sufficient for every useful purpose. Nature seems in many cases unwilling to gratify idle curiosity. In order to check our pride, and confine our views to matters of real utility, she will sometimes only let us see the regular effects of her proceeding, without allowing us to take even a glance at her secret principles or motives. But when a knowledge of these is essential or highly conducive to the health and happiness of mankind, she has placed it within the easy grasp of common understandings:---she has now and then buried it just deep enough to exercise our industry, and to give us the heart-felt satisfaction of having dug into, and obtained a valuable treasure by a little perseverance.

2. From the study of this part of comparative pregnancy it appears, that the longer the time of gestation is, the longer the animals are before they come to full growth; and that on this depends their continuance in the mature state, without any natural tendency to decay, one period of existence regulating another. In extending these observations a little farther, we are soon struck with a wonderful distinction which nature makes between the human species and the rest of the animated creation. In every country the temperature of climate, according as it is hot or cold, hasten or retards not

only the expansion of plants but the gestation of all females, the human race excepted. This is easily proved by comparison; and, without referring to less familiar instances, it is exemplified almost every day by the conveyance of cattle and domestic animals from Europe to the West Indies, where they bring forth their young within a much shorter period than they were accustomed to do in their native country. But woman, though of a far more delicate frame, is not in this respect subjected to the same laws as other living creatures. The period of her child-bearing does not vary in the snows of Lapland and the parched regions of the Torid Zone. So marked a peculiarity shews a moral intention in nature to preserve an equilibrium in the population of nations, which would have been deranged, had the pregnancy of the woman been of shorter duration in hot countries than in cold. This intention is farther manifested in the admirable proportion she maintains in the production of the two sexes, so nearly equal in number, and in the very difference which we find of one country from another, between the number of males and females: for it is compensated from north to south in such a manner, that, if there be rather more women born to the south, there are rather more men born to the north, as if nature meant to attract and to unite nations, the most remote from each other, by inter-marriages*.

*. Etudes de la Nature, tom. 1.

3. But though the extremes of climate make no change in the term prescribed by nature for ripening the human *fetus*, yet disease and a variety of other accidents, strongly affecting either the body or the mind, may often cause the premature expulsion of the precious deposit. No body can want to be informed, that the regular period of gestation is thirty-nine or forty weeks, though the reckoning, for very obvious reasons, cannot often be made with precision, nor is it requisite for safe delivery. On the contrary, it would be better, perhaps, that labour should always come on unexpectedly. The busy interference of man would not then so frequently disturb or impede the efforts of nature, which in all healthy and well-formed bodies, are fully adequate to the accomplishment of this grand work.

4. All expulsions of the *fetus*, previous to the complete term, are commonly classed under two heads: those which happen before the end of the sixth month, when the child cannot live, are called *miscarriages*; but after that period, as the infant may be, and very often is preserved, their regular effort has the softer name given it of a *premature labour*. The immediate cause of abortion is the separation of the appendages of the child from the womb, along with contraction of that organ. This may be induced by an infinite variety of circumstances. We have before observed, that extreme fulness of the habit, feverish, or inflammatory disorders, outward violence, or internal tumult, will often cause

a partial or a total separation of the placenta from the interior surface of the womb, and thereby occasion floodings and miscarriages. The death of the child, or a diseased state of its appendages, may rouse into action the expulsive powers of the womb, to get rid of the morbid load. Weak, nervous, hysterical women, are apt to miscarry in consequence of the most trifling accidents. Where the body and mind seem to be equally irritable, the womb can hardly escape being affected, either directly, or by consent with some other part. Its own exquisite sensibility makes it one of the chief seats of irritation; and when once disturbed, from whatever cause, it cannot be easily quieted. Every effort to abate its action will often fail, till the contents are expelled; and a single miscarriage is the more afflicting, as the patient has so much reason ever after to dread the repetition of the same misfortune.

5. From this view of the general causes of abortion it is plain, that no instructions of any material importance can be added to the details we have already entered into respecting the management of the passions, and the proper use of those great sources of life and health, air, diet, and exercise. They comprehend all the means that can be advised to prevent miscarriages; and an attention to them alone will be sufficient, unless some previous or incidental disease may require the use of medicines, or unless a decay of the *fetus*, or any of its appendages, or some defect or incapacity of regular ex-

pansion in the womb may defeat every effort of the tenderest and most judicious care. There is often great reason to suppose, that the womb, from some inherent imperfection, will not distend beyond a particular size, before which it takes its deposition to act, and expels what it can no longer contain or cherish. We should otherwise be at a loss how to account for the instances we meet with of women who are in the habit of miscarrying,---who go on in a very promising way for a certain time, and then miscarry, not once, but for a number of times, in spite of all the methods which can be contrived, and all the medicines which can be given. But as this cause is at best but a matter of conjecture, we must never relax in our endeavours to correct the habit, and to produce a salutary change in the womb through the medium of the constitution. Occasional success in cases, which the frequent repetition of miscarriage seemed to render hopeless, has taught me never to despair; and it is not uncandid to suppose, that the blame is now and then thrown upon some pretended natural defect, which should in truth be ascribed to medical ignorance and ill-treatment. I must at the same time confess, that there is no part of my practice which I have been so little able to reduce to a certainty, or which appears to me to require greater skill and fertility of resources than the prevention of miscarriage, when the pregnant lady though otherwise in apparent good health, has before experienced it at regular periods.

6. The symptoms that precede or accompany

abortion are very various, according to the immediate causes and particular habit of the patient. There are generally pains in the back and loins, with a sense of weight and coldness in the lower region of the abdomen, a bearing down, frequent micturition, and a tenesmus. But the most certain signs are regular intermissions, and a discharge of blood which shews that some part of the appendages of the *fœtus* is loosened from the womb. Though all the expedients of art should be instantly employed on the very first indication of danger, it is seldom possible to avert the threatened evil. A few instances of success are, however, a sufficient incitement to leave nothing untried, as, notwithstanding the most serious alarm, and the appearance of all the usual symptoms, except the bearing down pains, a skilful mode of proceeding has sometimes saved a poor woman from abortion, and enabled her to carry her child to the regular time. This is most likely to be effected, when fulness, any violent passion, or momentary spur to the increased action of the blood, has given the immediate shock. Many well-authenticated cases are also upon record, of women, who had conceived two or more children, and who miscarrying in consequence of some of the last mentioned causes, have expelled only one child, while the other, or others, have been retained by means of proper care. Dr. Hamilton, after stating one of these cases, very justly observes, that they suggest a caution, which should never be neglected, to treat every patient for sometime after miscarriage, as if she were still with child, in order to prevent

the possibility of a second child being lost, especially as the actions of the womb, when once excited, are very readily renewed by the most apparently trifling irritation. It is also to be remarked, that abortions now and then take place without any previous warning, with very little discharge, and but slight pain even at the moment. The contrary however, is much more usual.

7. In the first four or five months of pregnancy, miscarriage, unless it be induced by some acute disease, or by artificial means, is very rarely productive of immediate danger to the life of the patient; nor does it require any manual assistance. Even when the *placenta* is for some time retained, or comes away only in small portions, no means whatever must be used to force or accelerate its expulsion. The truly enlightened practitioner will leave this part of the business to nature alone, and will attend to the proper treatment of the hæmorrhage, as well as to the prevention of any farther bad consequences, and of the future recurrence of a similar event.

8. If the miscarriage should happen in consequence of any acute disease, the situation of the patient becomes very critical. She miscarries in fact because she is already in great danger, and this is aggravated by the abortion. Dr. Denman applies the remark to the case of women who miscarry, or are delivered, at the time of their having the small-pox. If the patient expels her child in the commencement of that disease, perhaps from the violence of the eruptive fever, she may happily escape every danger. "But," he adds "if a wo-

man passes the time of the eruptive fever, and labour or a tendency to miscarry should come on towards the crisis of the disease, as far as my observation enables me to speak, she will then certainly die. She dies, in truth, not because she miscarries or brings forth a child, but she miscarries or falls into labour because she is already in a dying or very dangerous state, and by those circumstances the danger is infinitely increased."

9. My blood runs cold, and my hand trembles, in proceeding to describe the far more inevitable dangers that attend abortion brought on by artificial means. Ah! what a struggle between the emotions of pity for the sufferer, and of horror at the fatal cause! So wicked an outrage upon nature is sure to be punished with tortures and with death. Let the monster who advises, and the wretched creature who is going to take any medicines, or rather poisons, to effect this shocking purpose, pause for a moment, and consider well the double murder they are going to commit. Frantic woman! what are you bent upon? Is the innocent embryo in your womb to be made the first victim of your guilty joys? And do you hope to survive the deed? Do not flatter yourself with the idea of escaping from public shame, public justice, and personal danger? Be not mistaken---A terrible avenger is at hand---The stimulants you employ cannot succeed without producing very violent effects on the organs contiguous to the womb. They become inflamed; a mortification ensues; and you are consigned with the most excruciating agonies to the grave!

10. During the sixth month, which is the period of distinction between miscarriages and premature labours, a little manual assistance may be necessary. But of this necessity the skilful midwife will judge from actual circumstances; and she must never forget, that she is, indeed, *nature's servant*; and that improper or unseasonable officiousness on her part may often prove more injurious than total neglect.

11. At any time after the sixth month, the general mode of proceeding should be the same as at the end of the regular term, with such farther attention as the peculiarities of the accident may require. We should always proportion the degree of assistance to the obvious exigency of the case, nothing having ever been more fully demonstrated by experience than these plain truths, that the less we do in all ordinary cases, the better; and that, in premature labours, the longer the time which is wanting to complete the full period, the greater the difficulty will be which attends any operation. Upon what occasions it may be allowable to bring on premature labour, in order to preserve the life of a child, without adding to the danger of the mother, is a question of extreme delicacy, which no practitioner, who possesses the necessary qualities of the head and the heart, will decide without a due regard to the structure of the *pelvis*, to the issue of former labours, and to a variety of other important considerations. It is impossible that the person, who can thus judge of the propriety of the operation, should be ignorant of the method of performing it.

ESSAY IX.

1. First object of useful advice and instruction at the approach of labour.---2. Various theories on the subject, some fanciful, some practically dangerous.---3. Steps by which nature advances to the accomplishment of her purpose.---4. Sinking of the child into the lower part of the abdomen.---5. Preparation of the breasts for their nutritive office.---6. Mucous discharge, popularly called a shew.---7. Whence all pain arises.---8. Absurd notion of the inefficacy of any pain.---9. The cause of rigors or shiverings explained.---10. Suppression of urine.---11. Some advice respecting another of the natural evacuations.---12. Motive for entering into a detail of the pains of labour.---13. Their modes of attack, and progressive variations when true.---14. Causes and proper treatment of spurious or false pains.---15. In what respect nature may be said to disdain and to abhor assistance.---16. Salutory check on the hurry of ignorance, the rashness of presumption, or an interested and murderous precipitancy.---17. The whole process described with a few necessary injunctions to women in labour, and to their attendants.

1. **A**LL sensations of bodily pain are so closely connected with the idea of disease or of danger, that we cannot readily convince others of their being in many cases essentially distinct. Yet it is of importance to impress this distinction upon the minds of pregnant women in particular, who are apt to be alarmed at every uneasiness arising from the change of their condition, but more especially at the symptoms which precede and accompany their lying in. These are, indeed, very painful; but they differ so materially from all morbid effects, that the very acuteness of the pain is often

the surest indication of health, vigour, and safety. As the successful issue of a labour may depend very much on the woman's state of mind at the time, the first object of useful advice and instruction is to give her just notions of the cause of such pains, and of the great purpose they are designed to answer; to teach her to endure them without fear and without impatience; to restrain her from using any voluntary efforts on her own part to increase their effect, with a view of shortening the work; and to inspire her with a rational confidence in the unassisted powers, as well as the wisdom and benignity of nature.

2. In order to set these interesting matters in a proper light, I shall not have recourse to mechanical illustrations, taken from a body passing through any given space, which would be very absurdly applied to cases, where we have no precise ideas of the dimensions of the space, nor of the magnitude of the body, nor of the alterations in size and form which that body may undergo, nor lastly of the power excited to propel it. I am as little inclined to amuse the reader with remarks on the ripeness and falling of fruit, on the incubation of eggs, and bursting of the shell, or on the manner in which cattle are observed to bring forth their young; for though many books of midwifery abound with such observations, they appear to me, in the present case, far from being pertinent. Even in what relates to the parturition of viviparous animals, there is so great a difference of manner, dependent upon

the variety of their structure, that no inferences can be drawn by the usual mode of reasoning from like to like; and the only instruction they afford is founded on their disparity. But a still worse attempt to throw light upon the subject has been made by some writers, who seem to consider delivery as the crisis of a disease, and the pains that precede it as the efforts of nature to get rid of an offending body. A doctrine in some respects so plausible, yet so erroneous, has frequently led to the most fatal interposition, under the pretence, or the delusive hope of assisting those natural efforts; and may be truly said to have done more mischief than the most skilful practice ever did good. The best method, therefore, of avoiding all useless as well as all dangerous theories, will be to confine ourselves to plain matters of fact, to the regular process of labour, to the pre-disposing signs of its approach, to the pains that accompany it, the great purpose they answer, and the admirable manner in which the native powers of the constitution are exerted with a degree of energy and effect proportionate to the ordinary difficulties and obstructions.

§. 3. Previous to the act of parturition, some remarkable changes take place in the frame, which though attended with uneasiness, yet being occasioned by circumstances preparatory to a safe delivery, ought to be considered as favourable symptoms. The time of their appearance is different, being in some women several weeks, and in others only a few days, before the commencement of labour; but they uni-

versally take place, unless the labour be precipitated by some accidental influence; and the more perfectly these changes are made, and the longer the time of their preceding the labour, the more natural and kindly will the process generally be. They are, indeed, the steps by which nature advances to the accomplishment of her purpose; and as she before used very wise precautions to prevent certain evils in the pregnant state, which would arise from the erect position of the human body, such as the slipping out or expulsion of the *fœtus* before its proper time, so now, that time being completed, she gradually removes those impediments by dilating the parts, and lessening their resistance to the passage of the full grown infant.

4. The first of what are called the predisposing signs of labour, is the sinking of the child into the lower part of the abdomen, by which means women become sensibly diminished in bulk, and not only appear, but really are, less in the ninth than in the eight month of pregnancy.

5. Another of the intimations that the time of labour is drawing near may be observed in the breasts, which shew themselves completely fitted for their nutritive office, by the nature, state, and increased quantity of the milk which they secrete.

6. The approach of labour is also very usually announCED by the discharge of *mucus* from the neck of the womb, at first resembling the *fluor albus*, but afterwards becoming in most instances glutinous or clammy. The change in its consistence is easily

accounted for. -- In its first state, it is a mere increase of the secretion from the glands of the vagina and neighbouring parts, which it tends to soften and prepare for expansion; but, on the actual commencement of labour, it is thickened by the coming away of the glairy substance, with which the orifice of the womb was closed up soon after conception. The discharge is often tinged with blood, more particularly when the aperture begins to dilate, and when it is finally dilated. The sanguineous emission is popularly called a *show*, because it is one of the surest signs that nature has not only begun, but made some progress in, the great design. When there is no coloured discharge in any period of a labour, the dilatation of the parts generally proceeds with greater slowness and difficulty.

7. From this view of the very first stage or accession of labour, it is easy to perceive whence all the pain arises. The action of the womb, by which its contents are compressed into a less space, and would be excluded if there was any opening for their passage, first takes place as a cause. When some part resists the passage of the contents of the womb, the exclusion of which is the effect to be produced, there will then be pain proportionate to the action, to the sensation of the resisting part, and the resistance made. We may suppose the parts through which the child must pass so perfectly disposed to dilate, that they would make little or no resistance to the excluding force; and then a woman would be delivered with little or no pain. Here then we not only dis-

cover the reason of the great advantage obtained by a labour being slow and lingering, and why some women are delivered comparatively without pain; but, with this perfect disposition to dilate, if the patient should be asleep when the action of the womb comes on, the possibility of her being delivered before she is quite awake*.

8. Another remark of Dr. Denman's on the same point deserves the most serious regard. "In the conversation," says he, "of those who attend labours, it is often surmised, that women have much unprofitable pain. This statement is not only unfair as to the fact, but the language is very dispiriting; and it is often assigned as a reason for an interposition altogether unnecessary, and often injurious to the mother and child. No person in labour ever had a pain which was in vain. It may not be equal to the accomplishment of the effect we want, or at the time we wish; but every pain must have its use, as preparatory to, or absolutely promoting, the effect; and, as we are not able to comprehend every possible cause of every state, it often happens that, by endeavouring to remove what appears to be one slight ill, we may occasion many, and those of greater consequence."

9. At the beginning of labour, and sometimes on the return of every pain, women have frequently one or more shiverings, somewhat like, though in a stronger degree, the chilly sensation often expe-

* Dr. Denman's Introduction to the Practice of Midwifery.

rienced after meals, and partly arising from a similar cause.

“ For now the cordial powers

“ Claim all the wandering spirits to a work

“ Of strong and subtle toil, and great event,

“ A work of time” *. —————

Every word that is here said of digestion applies with additional force and justness to the more important process of child-birth, to which, all the powers of the constitution are summoned to contribute; and every shivering may be considered, not as the symptom of any weakness or danger, but as the signal for some grand and united effort. Hence such *rigors*, as they are called in medical language, are most apt to occur when the orifice of the womb begins to expand, and when it is on the point of receiving its full expansion. If, in the course of a labour, in all other respects natural, one strong and distinct *rigor* should be felt, it then becomes alarming, being often followed by some disease dangerous either to the mother or child.

10. Dr. Denman observes, with just discrimination, that, when the head presents, and scarcely in any other position of the child, women have generally some degree of strangury in the latter part of pregnancy; and this symptom is increased on the approach of labour, by the pressure of the descending head upon the neck of the bladder. Should the pressure be very great, or of long continuance,

* Dr. Armstrong on Health.

a suppression of urine may be occasioned before, or in the time of labour. To prevent the inconveniences which might arise from a distention of the bladder, either to the part itself, or by obstructing the passage of the head, it is necessary to urge the patient to void the urine frequently; and, in case of a suppression, to give relief by introducing the catheter. Should the pressure by the head be made upon the fund of the bladder, there will be an involuntary discharge of the urine at the time of every pain. Extraordinary agitation from a cough, or any similar cause, will produce the same effect, which is attended with inconvenience, but no danger.

11. The same writer takes occasion to give some useful advice respecting another of the natural evacuations, where ignorance has often proved very injurious. After stating that it is not unusual for patients to feel a frequent desire of going to stool, or to have one, two, or more loose stools in the beginning or course of a labour, and then explaining the cause of such symptoms, he adds "there is in the minds of all women a popular prejudice and unreasonable dread of complaints in the bowels, through every stage of pregnancy, parturition, and childbed; and of course there is never any objection, but, on the contrary, a willingness to use such means as are advised to suppress them, or restrain any disposition to a *diarrhœa*. The error has arisen from their confounding the looseness, which often accompanies the last stage of the puer-

peral fever, with that which proceeds from any other cause. But the *diarrhœa* which attends the beginning, or course of a labour, is so far from occasioning, or from proving any danger, that the patient is evidently relieved by it; a greater freedom being given to the action of the womb, more room made for the passage of the child, and any feverish disposition thereby removed or prevented. If, therefore, the patient should not at that time have stools spontaneously, it is very sound practice to direct one or more emollient clysters for the before-mentioned purposes. Nor are those the only good ends which are answered by clysters; for they soothe the parts when too much or improperly irritated, and serve as a fomentation, which, by its warmth and moisture, may give or amend their disposition to dilate. In very slow labours, when the head of the child has dwelt for a long time in one position, it is not unusual for the patient to have one or more loose stools immediately before the advancement of the head, after which the labour is soon concluded."

12. Any attempt to describe the first attacks or progressive variations of the pains of labour would appear quite frivolous, as no powers of language can give so clear an idea of them as actual feeling, were not such an account in some cases very useful, to teach the patient to distinguish the *true* from false or *spurious* pains, according to the popular phrase, which may be excited towards the conclusion of pregnancy, by various causes, besides the

action of the womb, and may often be attended with bad effects. It is rendering no small service to any lady in this condition even to prevent, as far as we are able, the anxiety and disappointment arising from mistake.

13. The *true* pain of labour usually begins in the loins or lower part of the back, and extends round the region of the womb. It sometimes takes a different direction, affecting parts at a distance from the womb, or being occasionally confined to a particular spot. Before the orifice of the womb is fully dilated, every pain will often so far disorder the stomach as to cause vomiting which forwards the general good effect. The knees or feet may also be the seat of pain; but none of these varieties, which are ascribed to the influence of the nervous system, can give so much alarm as when the brain is strongly affected. Convulsions, or other bad consequences, often follow. As to the degrees of the *true* pain, and its returns, they change with the progress of the labour. The action of the womb is at first irregular, slow, and feeble in its powers: but when the orifice of that organ begins gradually to dilate, the pains increase in frequency and force, and they occur at regular intervals.— Sometimes they are alternately strong and weak, or two feeble and one strong; and there is reason to think that every variety has its advantage, by being suited to the state of every individual patient. In every circumstance which relates to natural parturition, it is impossible not to see, and not to admire,

the wisdom and goodness of Providence, in ordaining the powers, and fitting the exertion to the necessities of the situation, with a marked respect to the safety both of the mother and child.

14. *Spurious*, or *false* pains are in general more slight and irregular than the *true*; and as they produce no change on the orifice of the womb, the *shews* before described do not succeed them. In some cases, the seat, the manner, and the degree of the *false* and *true* pains so nearly resemble each other, that they can be distinguished only by a skilful practitioner, and by examining whether the orifice of the womb be pressed upon or dilated during the continuance of each pain. When other distinctions fail, such an examination may be necessary; for, if *false* pains were encouraged, or permitted to continue in the same manner as the *true*, the action of the womb would follow, and premature labour be brought on. Care must therefore be taken to remove them, or to abate their force, the moment the point is ascertained. The remedies or palliatives vary with the particular causes of the pain, and have been already pointed out in our remarks on the diseases and complaints incident to the advanced state of pregnancy. We need only add one observation, that excessive fatigue of any kind, especially too long standing, sudden and violent agitations of the mind or the body, costiveness or its opposite, a general feverish disposition, or, in short, any uncommon disturbance of the parts immediately connected or readily consenting with the womb, may

induce those *false* pains and seeming symptoms of labour.

15. "It has been thought," says the judicious author whom we have so often quoted, "equally incumbent upon the practitioner to promote the power and effect of *true* pain, as it was to quiet that which was *false*. This opinion is perhaps more universally popular than any other throughout medicine; and, having infected the minds of practitioners, it has been as injurious as general. From this source may be traced the opinion of the necessity, and the abominable custom of giving assistance, as it is called, by dilating the internal and external parts artificially; of giving hot and cordial nourishment during labour, even in plethoric habits and feverish dispositions, by which the nature of the principle which should actuate the womb is changed, the pains are rendered disorderly and imperfect, and the foundation of future mischief and difficulties, in one form or other, invariably laid. Hence also was derived the doctrine of the necessity of patients helping themselves, as it is called, by urging with all the voluntary force they are able to exert beyond the dictates of nature; as if a labour was a trick to be learned, and not a regular process of the constitution. Women should be informed, that the best state of mind they can be in at the time of labour, is that of submission to the necessities of their situation; that those who are most patient actually suffer the least; that, if they are resigned to their pains, it is impossible for

them to do wrong; and that attention is far more frequently required to prevent hurry than to forward a labour. In every thing which relates to the act of parturition, nature, not disturbed by disease, and unmolested by interruption, is fully competent to accomplish her own purpose: she may be truly said to disdain and abhor assistance. Instead, therefore, of despairing, and thinking they are abandoned in the hour of their distress, all women should believe, and find comfort in the reflection, that they are at those times under the peculiar care of Providence; and that their safety in childbirth is insured by more numerous and powerful resources than under any other circumstances, though to appearance less dangerous*.”

16. Here we find in a few words a summary of the most important cautions that can be given to women in labour and to their attendants. They must have due weight with every patient of common sense: they may also operate as salutary checks on the hurry of ignorance, on the rashness of presumption, or a weak compliance with the impatience of others, and, what is worse than all, but I hope seldom occurs, on an interested and murderous precipitancy, which may prompt an unfeeling practitioner to quicken the slow progress of a labour, in order to be the sooner able to attend to some other call.

17. The increase of the natural pains, as the labour advances, is another reason for guarding against a

* Dr. Denman's introduction.

dangerous waste of the patient's strength either by her own voluntary exertions, or from any artificial stimulant. In the beginning, as before observed, the expulsatory action of the womb is feeble in its powers, and slow in its returns. It consists of gentle contractions of that organ, and a pressure of the contents on its orifice, till the latter dilates by degrees, and admits between its expanding edges the lower part of the membranous bag, with some of the water, in which the child is contained. This bag increasing in size in proportion as the resistance to its progress is lessened, forms a sort of soft pillow, and acting upon the principle of a wedge, at the return of every pain, or every fresh impulse of the contracting womb and abdominal muscles, continues to open the orifice and upper part of the *vagina*, till they are sufficiently enlarged to admit the entrance of the child's head. The time taken up in this stage of the labour is so variable not only in different women, but in the same woman with first and subsequent children, that it would be idle and perhaps mischievous to amuse any person with conjectures on the subject. Whether the process be long or short, it must be left wholly to nature, who adapts her efforts to the constitution of the patient, and to the state of those delicate and acutely sensible parts, which would suffer the most irreparable injury from sudden or ill-timed violence. When the passage is duly prepared, the membranous bag bursts, and the waters are discharged; after which a

temporary remission of the pains is experienced. But the respite is seldom of long continuance. The action of the womb, as well as of the abdominal muscles and midriff, soon returns with greater force; and strong bearing-down pains are experienced, till the head of the child entering the cavity of the basin, and adapting itself to the form of each part with wonderful pliancy, is brought so low as to press upon the internal surface of the *perinæum*. Here again we must repeat in the most earnest manner our former injunction to both the patient and the midwife, not to attempt, by any voluntary straining of the one or unnecessary interference of the other, to hasten the process. The bearing-down pains must be the effort of nature alone; or the worst consequences will ensue. Any mistaken endeavours of the patient may so far exhaust her strength as to render her incapable of undergoing the necessary fatigue which attends the complete expulsion of the child. Besides, if the parts are not duly prepared, they may be torn by such violence; and accidents of this kind, especially when the *perinæum* has been lacerated, have often occasioned a fever, or have rendered the patient miserable for the remainder of her life. She must therefore be dissuaded against retaining her breath, or giving any additional force to the instinctive effort; or, if her sufferings are so great that she cannot command her own actions, the efforts she makes must be resisted by the application of some equivalent force, which a skilful practitioner will know how to adapt to the exigency of the case.

Midwives will find in Dr. Osborn's Essays the best instructions on this head, as well as on the propriety of retarding the delivery of the body of the child, and the danger of yielding either to vulgar prejudices or to any woman's importunities or impatience by hastily extracting the *placenta*. In the same very valuable performance, and the other works before recommended, they will likewise meet with the most accurate information on every other point of duty in the course of a regular labour, and in the various deviations which accident, deformity, disease, or a plurality of children at a birth, may give rise to. It would betray the greatest weakness and vanity on my part to enlarge on such topics as have been already discussed by others with clearness, precision, and ability. It would also be foreign to the avowed purpose of this little book, which is not to give lessons to pupils in the art of midwifery, but to guard women in a state of pregnancy, and at the time of their lying-in, against the fatal effects of their own errors and of the ignorance and rashness of the people about them. The health and the lives of numbers will be preserved, if we can prevail upon them to do nothing, but to rely, in all ordinary cases, on the powers and resources of nature.

ESSAY X.

1. Propriety of moderating our transports immediately after delivery.---2. Some degree of fever and a general irritation of the system to be still attended to.---3. Importance of repose.---4. Dress, posture, change of scene, and other particulars worthy of attention during the progress of recovery from childbirth.---5. The free admission of fresh air, and a due regard to cleanliness doubly requisite.---6. Bad effects of violent and active perspiration.---7. Hot stimulating liquors and the early use of animal food forbidden.---8. The only assistance which art should presume to give in ordinary cases.---9. Use of strong medicines neither salutary nor safe.---10. After-pains.---11. Dr. Clarke's observations on the *lactial* discharge.---12. Danger arising from the secretion of the milk.---13. Marked design of nature in supplying the mother with this delicious and nutritive fluid.---14. Advantages which mothers will derive from suckling.---15. Mark of tender solicitude shewn by the wives of American savages to infants who die on the breast.---16. How to relieve any accidental pain, soreness, or difficulty in the first experiments.---17. Certain means of preventing the milk fever, or of rendering its attacks slight and of short continuance.---18. Reasons for preferring a vegetable diet to animal food.---19. Directions to such mothers as may be prevented by various causes from giving suck, with a few remarks on inflammations and suppuration of the breasts, as well as on childbed fevers and the like complaints.

1. **H**OW pleasing to the eye is the sight of land after a long and dangerous voyage! How delightful to the ear is the shout of victory at the close of a dreadful conflict! Yet how far more rapturous are the emotions felt at the moment of having become a mother, and of being relieved

from all immediate pain! We must learn, however, to moderate these transports; and though our first care is to inspire with confidence, yet that confidence should always be tempered with becoming caution. The instances of persons who die during the act of labour, if they previously enjoyed a good state of health, and have been properly managed, are so few as almost to leave some doubt of the possibility of such an event. But numbers are cut off by diseases after delivery, which might have been easily avoided. The means of their prevention, therefore, are not uninteresting objects of inquiry.

II. It is taken for granted that a due regard has been paid to the rules concerning diet, air, exercise, and the passions, during the state of pregnancy, and to the hints of what was proper to be done, or rather to be left undone, after the accession of labour. We will suppose, that the patient has not wasted her strength by the employment of her voluntary exertions, nor, on the other hand, been induced, when sinking with faintness, to take heating liquids, or caudle impregnated with spices, wine, or spirits; but has confined herself during the whole time of her labour, whether long or short, to beef-tea, veal, or chicken broth, calves-feet jelly, barley-cinnamon water, and the like refreshments. Let it be farther presumed, that the child and its appendages have been expelled without any injury to the parts; and that no inflammation, no dangerous hæmorrhage has followed. Still the efforts attending the whole process will cause some degree of fever and a gene-

ral irritation of the system, which can only be appeased by rest, by the free admission of fresh air, the strictest cleanliness, and a temperate, and cooling regimen.

3. The importance of repose after much pain and fatigue is so obvious, that one would hardly think any arguments necessary to enforce it. Yet too little care is generally taken to secure the enjoyment of that grand restorative. The flutter of the spirits is often kept up, and preparations are rather made to admit company than to promote quietness. The whisper of fond congratulation from the dearest friend is all that should be allowed even for a moment. In order to prevent the uneasiness which a mother naturally feels from the cries of her child, the operation of washing and dressing the infant should for a few days be performed in an adjoining room. If sleep be prevented by the continuance of the pain, we must have recourse to opiates. In short, nothing must be omitted which may give perfect composure both to the body and mind.

4. I have not given any instructions how to prepare the bed at the accession of labour or afterwards, as all nurses are well acquainted with what is proper to be done in such cases. I must only beg, that, immediately on the expulsion of the *placenta*, the patient may not be kept a single instant in any but a horizontal posture, and may be laid in bed without being newly dressed. A napkin may be pinned round the *abdomen* with moderate tightness;

but no swathe or stronger pressure should be used. In case of extreme tenderness or slight inflammation of the abdomen, the application of a warm flannel well sprinkled with any kind of spirit, and renewed now and then, will have a good effect. It may be proper here to add, that the patient must be confined to the horizontal posture for at least four or five days, however hearty she may appear, or think herself. Even for a week or a fortnight after that time, when she is taken out of bed, in order to its being occasionally adjusted, or with a view to her own ease and the improvement of her strength, she should always be placed in a reclining attitude on a sofa, and never sit upright, till the womb resumes its natural state, which it seldom does in less than two or three weeks after delivery. When she can easily bear being conveyed into another apartment, the change of scene, and the consciousness of increasing health and vigour, will be very agreeable; but she must not be too forward to encounter fatigue. As to the time of her going abroad with safety, no invariable rule can be laid down. It must depend on the progress of her recovery. Her own feelings, the ease and firmness of her motions, will best inform her whether she may venture at the end of the month to take an airing in a carriage, or a walk in her garden.

5. Fresh air, at all times so conducive to health, is doubly requisite in childbed. Any neglect in this particular will defeat our other endeavours to prevent inflammatory and febrile diseases. The

propriety of using light bed-clothes, and of keeping the upper part of the chamber windows constantly open, has been already demonstrated. All impurities, whence noxious effluvia arise, should be removed without delay. Frequent changes of the head-dress and linen are also proper, as they receive and retain the perspirable matter. The breath of many persons in the apartment is injurious on the same principle, and must not be permitted. As to the use of fire, it will in some degree depend on the season and weather *. The extremes of heat and cold are equally dangerous: the one would too much increase, and the other improperly check perspiration. The evils in either case are thus very fairly stated by Dr. Clarke.

6. " Women after delivery, from the fatigue of labour, have naturally a disposition to sleep and to perspire. Great stress has been laid on the necessity of keeping up perspiration, and with this intention they have been frequently plied with draughts of heating liquors. Now, however advantageous and natural easy and passive perspiration may be, nothing can be more detrimental to the recovery of pa-

* It must however be observed that, besides the use of fire as a preservative from cold, it has other good effects in expelling corrupt air; in dislodging, as Dr. Lind observes, the infectious matter from the place of its residence; and thereby extinguishing the source of any contagion, with which the atmosphere of a room may be impregnated. The fume of tobacco and of gunpowder is also of great efficacy in correcting a tainted air, and should be occasionally introduced into the bed chambers of lying-in women during the prevalence of any epidemical disease.

tients than the violent and active perspiration brought on by such means, and farther encouraged by a large quantity of clothes heaped on the bed, by drawing the curtains round it, and keeping a large fire in the room. This is not nature; and the consequence of such management will be, that if by any unavoidable accident the smallest exposure to cold should happen, a fever will almost certainly ensue; or if it should not, the continuance of such sweating will necessarily very much weaken and render the patient almost incapable of becoming a nurse. But, at the same time that it does not seem necessary to keep up sweating by such means, there is no occasion, and it would be unwise to counteract the natural disposition to a gentle and kindly perspiration, the first few days after parturition, especially as it is well known that it generally attends those who recover best*."

7. On the subject of diet, it is enough to refer to our former observations, and to repeat in particular the prohibition against hot, stimulating liquids, and the early use of animal food. Women of strong, plethoric habits can hardly be too abstemious. They have nothing to fear from emptiness or fatigue; and a low regimen will be their best preservative against the danger arising from the secretion of their milk, and will render them less liable to any attacks of fever or any inflammation. Very weak and delicate women, on the other hand, require something more nutritious than gruel and barley-

* Dr. Clarke's Practical Essays.

water; but surely jellies, or broths made from animal substances, are better suited to the debility of their stomachs, and will sooner afford the wanted nourishment, than those substances themselves. If the patient has been unhappily accustomed to very luxurious living, or if soups disagree with her, she may be indulged in a little fish, boiled veal, or chicken, and bread pudding. Every succeeding day will render such indulgences safer; and in four or five days after her lying-in, if her strength should require it, she may be allowed a glass or two of wine. Restraint, or a total change of what one has been long used to must not be enforced with too much rigour; but the unchecked gratification of the appetite would at this critical period prove infinitely more dangerous.

8. A due attention to the above points, however simple they may appear, will prevent a great variety of complaints, and will, in most cases, render the use of medicines unnecessary. Where no irregularity has taken place, nature kindly provides the easiest means of relief for all the unavoidable consequences of labour. The feverish tendency is abated by gentle perspiration; and the other outlets concur in the same effect by the easy performance of their respective offices. A gentle relaxant, such as the saline mixture, taken every six hours, is all the assistance that art should presume to give in such cases. Costiveness, inflammation, or other disorderly symptoms, will certainly require more active remedies.

9. In every deviation from prevailing modes of practice, though my chief trust is in the guidance of nature, yet I feel no small pleasure in being able to place my opinions or advice under the sanction of those who have written upon and exercised midwifery with the justest applause and success. I know that the fashion of the present times is in favor of much stronger medicines than appear to me either salutary or safe. I am therefore glad to remove the suspicion of singularity, and to soften the force of prejudice, by an authority so respectable as that of Dr. Clarke, who makes the following observation on the subject.

10. "Probably, the only complaint, which really calls for the use of medicines in the early part of the puerperal state, is what is called *after-pains*. These rarely occur after the birth of first children*. They are spasmodic contractions of the womb either to reduce its volume to its original size, or (which is more common) to expel some coagulated blood contained within its cavity. They may indeed be in some degree prevented or lessened, by not hastening the delivery of the *placenta*, but allowing it to be expelled by the contraction of the womb. By such conduct the womb will be more contracted than if the *placenta* be hastily delivered, so that there will either be less, or no room for the forma-

* The reason why they occur more seldom in first than in subsequent lyings-in, seems to be, that the womb does not contract as readily and uniformly after several deliveries as at first.

tion of *coagula* there*. With all the care which can be taken, after-pains will sometimes take place. If they are intended to answer either, or both the purposes mentioned above, it is evident that their operation is, upon the whole, salutary, and on that account they ought not to be prevented altogether. But they are sometimes so violent in their degree, that they effectually deprive the woman of rest. When this is the case, it will be advisable to give such a dose of an opiate at night, as will procure sleep, and either leave them to produce their effects during the day, or only give anodynes in such small doses as to diminish the sensibility a little, so that they shall be tolerable."

11. The doctor's remarks on the *lochial discharge* are written with equal judgment and delicacy. He explains its nature as consisting of the blood that

* As popular opinion has annexed the idea of mischief to these *coagula*, midwives are generally too eager to promote their expulsion, which should be left to the natural action of the womb. When they remain, as will sometimes happen, long enough in the womb, to assume its form, they are mistaken by ignorant people for *fales*, *blighted*, or *imperfect conceptions*. But there is an essential difference. The former are fleshy only in outward appearance, an incision into the substance soon shewing that they are composed merely of coagulated blood: but various parts of a child may be discovered in an *imperfect conception*, if examined carefully with the knife. The pedicle also, by which it is connected to the womb, is not of a fleshy texture, but vascular, and seems to be a true umbilical cord. There is likewise a *placenta*, and membranes containing water. The symptoms attending the formation, growth and expulsion of this apparently confused mass from the womb correspond with those of a well-formed child.

either flows from, or is pressed out of, the extremities of its blood-vessels, which had supplied the cellular part of the *placenta* with blood, and which upon its expulsion open into the cavity of the womb. Its quantity varies so much in different cases, as not to be reducible to any precise calculation. Where the womb is more contracted, there will be less, and where it is less contracted, there will be more of the lochial discharge. Its quantity, of course, as well as the attack of the after-pains, may be much diminished by the prudent management of the *placenta*. With regard to its quality, it is at first common blood, but will grow thinner and of a paler red, as the womb gradually contracts, and the vessels become smaller; next, it is of a greenish colour and resembles serum; and at last is simply watery, till the vessels are quite closed, and the evacuation stops altogether. "Those," continues our author, "who have considered the lochial discharge as noxious, and have attributed disease to the diminution or suppression of it, have been very anxious to promote it by various means; but such alterations are commonly the effects, and not the causes of disease; and all such measures have been accordingly found rather detrimental than useful. If there be little or no evacuation of the *lochia*, and the woman be in health, no remedies are required; and if she be diseased, the means appropriated to the relief of her complaints will reproduce it. In like manner, the redundancy of the *lochia* is rarely a primary affection, but depends

either upon a too great strength of the circulation, or upon great weakness. In the former, lessening the force of the action of the heart and arteries, and in the latter, strengthening the system by bark, bitters, vitriolic acid, and other extringent remedies, will relieve the morbid state of the system; and the redundant discharge dependent upon it will cease, when the cause is removed".

12. In pointing out the necessity of a low regimen to women of robust and full habits, I just hinted at the danger that may sometimes arise from the secretion of the milk; but this being a subject of very great and general importance, I hope that a more comprehensive view of it will not be deemed an improper conclusion of the present essay.

13. Nature, after having contrived such admirable means for the nourishment, growth, and security of the child while in the womb, does not abandon it after its birth; but takes care to supply the mother with a delicious and nutritive fluid for its sustenance, and even makes her health and happiness, and very often her life dependent on the discharge of this most sacred of all duties. It is not only curious, but highly useful to trace the indications of so marked a design. During pregnancy a great determination of blood is made to the breasts, which are thence considerably enlarged, especially near the period of delivery. This increased circulation will sometimes make the glands secrete the milk, before labour, in such abundance as to gush out of the nipples. But most commonly the secre-

tion does not begin till after delivery, when it will soon accumulate, unless it finds the proper vent, or is otherwise dispersed; and, about the third or fourth day, will not only distend and inflame the breasts, but excite a great degree of fever in the whole system.

14. The obvious method of relieving, or rather of preventing any uneasiness in this respect, is to put the child to the breast as soon after delivery and due repose as the strength of the mother will permit. Its admirable operation on the infant will be noticed in another place. Here, confining myself to the parent, I must observe, that nothing else can so effectually promote her recovery from childbed; the future establishment of good health, the exquisite sense of wedded joys, the capacity of bearing more children, and the certainty of receiving from them the most endearing returns of affection. Besides, the act itself is attended with a sweet thrilling, and delightful sensations, of which those only who have felt them can form any idea.

15. To these persuasives it is neither necessary, nor perhaps delicate to add any of the trite arguments drawn from the tender attention of the brute species to their young, as if women were to be shamed by such examples into the discharge of their duty as mothers. But I cannot avoid mentioning a fact of another kind, which, I think, will make some impression on the feeling heart. The wives of the American savages extend this mark of solicitude even to infants who die upon the breast.

After having bestowed upon them the rights of sepulture, they come once a day, for several weeks, and press from the nipple a few drops of milk upon the grave of the departed suckling!

16. Before the child is put to the breasts, these should be gently washed with a little warm milk and water, in order to remove the bitter, viscid substance, which is furnished round the nipple to defend the parts from excoriation. When the woman has never nursed before, the nipples at first are sometimes not sufficiently prominent to afford a proper hold for the child. The ends also of the small tubes, through which the milk passes, are contracted to prevent its flowing out spontaneously. From these circumstances, as well as from the inexperience both of the mother and the infant, some pain and difficulty may arise. But the common practice of having the breasts drawn by an old child, or some grown person, is far from being advisable. The degree of violence used on these occasions will often irritate and inflame the parts, and frighten the poor woman against the renewal of such painful experiments. Much gentler means will produce the desired effect. The breasts should be fomented with flannels dipt in warm water; and then a glass or ivory cup, mounted on a bag of elastic gum, ought to be applied in such a manner to the nipple, that it will draw it out gently and gradually, while, by moderate pressure on the sides of the breast with the hands, the milk will be pushed forward. In obstinate cases, an instrument of more attractive

power may be used, though with great caution, for fear of injuring the breast. It consists of a glass cup, adapted to receive the nipple; to which is added an air-syringe, with a valve. By working this, the nipple may be drawn out with as great a degree of force as the case may require; and after the operation has been repeated two or three times, the child will very rarely find any trouble in sucking. If the difficulty be not owing to a flatness of the nipple, but to a little rigidity of the milk-vessels, nothing more is necessary than the warm fomentation before recommended. The stiffness or contractions of the ends of those fine tubes will gradually yield to the natural efforts of the infant. They will soon become straight, so as no longer to impede the egress of the milk, which is propelled into them by the suction. Impatience, or excessive eagerness, in these cases, as in all others, defeats its own end. The attempts at first should neither be too often repeated, nor too long continued; and when the child is put to the breast, the mother ought to be supported by pillows in bed, in a reclining posture, and with due precautions against catching cold. In case of any particular soreness of the nipples, a medical practitioner of experience should always be consulted, as the modes of treatment pursued by ignorant persons, are in these instances, more especially, no less injurious than absurd.

[17. A cooling regimen, the saline mixture, as before recommended, and, above all, a ready con-

currence with the intentions of nature in giving suck, will either totally prevent the milk-fever, or render it very slight and of short continuance: if the patient be plethoric, or costive, or should the distention of the breasts give much uneasiness, some stronger laxative than the saline mixture is usually given on the third, and fourth day after delivery, with good effect, either in the way of prevention or cure. By these means the blood is derived to the intestines from the breasts, whence the secretion is diminished, and the constitution is less apt to be stimulated. After the fever has begun, and three or four evacuations have been procured, the patient should resume her saline draughts, with a small quantity of antimonial wine to favor perspiration, and repeat them every four hours, till the frequency of the pulse, heat, and thirst have subsided. This is proceeding in exact conformity to the natural efforts of the constitution, which terminate in a profuse sweat, a gentle looseness, or a copious discharge of milk from the breast. When the fever is not combined with any other disease, nor kept up by improper treatment, it scarcely ever continues more than twenty four hours.

18. After the dangers of the first week are over, a more liberal diet may be allowed the mother on account of her giving suck; but this indulgence must not be supposed to extend to gross meats, or heating liquors. Half a pint of porter or ale twice a day for at least a fortnight longer will be quite sufficient; and animal food, except in the cases al-

ready specified, should be wholly avoided, or very sparingly used for a much longer period. It would be happy for nurses, as well as for their sucklings, if they could confine themselves to the agreeable and salutary varieties of a milk and vegetable diet. It is a great mistake to suppose, that they themselves are better fitted for their office by living on animal substances. The very reverse is the truth. The milk of women who live wholly on vegetables is more abundant in quantity, will keep longer, and is far sweeter and more wholesome than what is prepared from animal food, which, besides its inflammatory tendency, must subject the children to gripes and worms.

19. As some women, from great weakness or delicacy of constitution, or from some defect in the nipples, cannot suckle, while others may be prevented from discharging that duty by particular circumstances of their situation in life, the utmost care is required to lessen the evils inseparable from such incapacity. It will be proper, every evening and morning, for some time before lying-in, to rub the breasts gently with warm oil, and to cover them with soft flannel, or fleecy hosiery. This practice must be continued after delivery, till the uneasiness arising from heat and distention be entirely removed. The strictest abstinence is also necessary; and even the drinks must not only be very weak, but as sparingly used as possible. Apples, strawberries, currants, and all sorts of ripe acid fruits will far better answer the double purpose of

assuaging thirst and keeping the body open so as to carry off the milk and prevent its secretion. We must not, at the same time, neglect the use of stronger purgatives and sudorifics than might otherwise be deemed necessary. After all our efforts, an inflammation and suppuration of the breasts will often take place; and the whole habit will sometimes be affected with feverish symptoms. As these may require the most delicate and cautious management, nothing should be done without the best medical advice and assistance. I know of no publication, where the various modes of treatment in such cases are explained with greater simplicity and conciseness than in Dr. Clarke's Essays. This work also contains the essence of his own very successful practice in the cure of the other inflammatory and febrile diseases incident to the puerperal state. It is but justice however to acknowledge, that Dr. Leake was the first who led the way to the rational management of the *child-bed fever*, though others have since improved upon and more fully illustrated his hints. No small degree of applause is due even to Dr. Denman, for having lately had the candour to retract his former erroneous, though very plausible opinions on this subject.

ESSAY XI.

1. State of man at the moment of his birth.---2. The infant's cries, not the solicitation of assistance, nor the effect of pain.
3. New milk, the only food and physic necessary.---4. Final cause of the scurf with which the infant is covered, and the delicacy that should be used in washing it off.---5. Gradual introduction and subsequent continuance of the cold bath.---
6. Clothing proper for children.---7. Particular instructions, respecting the head-dress---8. Attempts of some practitioners to mould the heads of new-born infants justly reprobated---9. The concealment of any accident no less criminal.---10. Advice to nurses on their own diet, and on the suckling, and weaning of children.---11. Proper time of weaning, and method of alleviating the sharp and painful operation of cutting their teeth.---12. Genial, elastic, and invigorating influence of the air.---13. Sleep.---14. Exercise.---15. Diseases of infancy.---16. Conclusion.

1 **THE** jaundice of false philosophy, which tinctures every object with its own gall, has givenⁿ us a frightful picture of the miserable state of man at the moment of his birth. But let us view him through the medium of unprejudiced, unperverted reason, and we shall see in every particular the most astonishing proofs of the wisdom, the goodness, the guardian care of Providence.. In reply to the objections founded on the debility of infants, it has been justly observed, that, if man were to come into the world in full growth and vigour, his bulk and strength would be useless, till he should have learned how to exert them : they would be even prejudicial to him, as they would prevent others from thinking it needful to lend him any assistance, and thus left to himself, he would perish before

he had discovered the objects of his wants. We lament the state of infancy, without reflecting that the human race must have been extinct, had not man been first a child*. Will you still say, that nature ought not to have brought him into the world in so helpless a state, left, as you pretend, entirely at the mercy of those about him? Consider first how she has provided for the weakness of children in the attachment of their parents. Turn your eyes to that infant.---Are not its innocent looks and engaging figure peculiarly calculated to interest in its favor all those who approach it, and to induce them to succour its wants? What you call its very weakness gives it the strongest claim to attention and support.

2. You may also be mistaken in your ideas of the helpless state of infancy. That new-born child is not so dependent on your immediate care as you imagine. Your officiousness will be rather injurious than serviceable to him. The cry you hear him utter at his birth, when the air rushes into his lungs, is neither a solicitation of your assistance, nor the effect of any pain. It is occasioned by surprise, and is in its consequences extremely important, as it is the cause of an exertion of all his powers, and enables him to acquire a new mode of living, very different from what he possessed in the womb. This does not take place instantaneously, but gradually, the uterine life, to

* *Emile, ou nouveau système d'éducation, tom. I.*

use a medical phrase, declining, as the breathing life becomes perfected ; and the manner of the progressive change is very observable, by attending to the pulsation of the navel-string, which first ceases at the part nearest the *placenta* ; and then, by slow degrees, nearer and nearer to the child, till at length it entirely ceases, so that the whole of the circulating blood ultimately resides in the body of the child, and the navel-string becomes quite flaccid. Do not therefore be in a hurry to interfere. You will endanger the life of the infant by presuming to tie or divide the navel-string before the circulation in it has ceased spontaneously ; nor would the child suffer, though that cord was never tied, if it was not divided.

3. Your eagerness to supply the child with food or with physic is equally unnecessary and dangerous. Nature has taken due care of him in both these respects. In the first place, she has enabled him to do without nourishment for several hours after his birth. Being replete with blood, and juices, he stands in no immediate need of any additional supply, till the mother has enjoyed due repose from the fatigue of labour, and is prepared to give him the breast. He wants your physic still less than your food. Be not in so much alarm about the alledged necessity of making him evacuate the black viscid substance contained in his intestines. The retention of the *meconium*, as it is called, for a few hours, cannot be attended with half so much inconvenience as you will occasion by the acrimony of the medicines which you force the

child to swallow. Whence arises this strange infatuation? Is not the quality of the mother's milk admirably suited to the very purpose you are aiming at, without your quackery? New milk is altogether thin, waterish, and purgative, in order to carry off the remains [of the *meconium* thickened in the intestines of the new born infant. By degrees, the milk acquires consistence, and furnishes a more solid aliment to the child, as he becomes more capable of digestion. It is not without design, surely, that, among the females of every species of animals, nature thus varies the consistence of the milk according to the age of their young*. If any cause should prevent the mother from giving suck, and no nurse, who has just lain-in, and whose milk is in a state suited to the occasion, can be engaged as a substitute, then your food and your physic, your alimentary and your medicinal contrivances will be necessary: but remember that the necessity arises only in consequence of your deviations from the regular course of nature.

4. But you will say, that, in one particular at least, the infant is left wholly at the mercy of those about him: born naked, he must perish with cold, if they did not clothe him immediately: look at him again with attention; and you will see that at his birth his skin is covered with a thick, glutinous matter, which forms a scurf over the whole surface. While he was in the womb, it served to defend him

* *Emile, ou nouveau systeme d' education, tom. 1.*

from the injuries to which he would be exposed by being suspended in a fluid; and now it dries in an instant, becoming a sort of incrustation to shield him against the possible sharpness or inclemency of the external air. If you strip him of that shield, it is but just that you should give him a covering in exchange for it. I see you have made some preparation for the purpose; and I shall not oppose this mark of your tenderness. I only beg that you would not be too eager to wash off every particle of that tenacious crust. You may fret the tender skin by rubbing it too roughly, or you may derange the delicate mechanism of some of the internal organs by too strong a pressure. The washing should be performed with the utmost gentleness, and nothing should be used on the occasion but a weak solution of soap in warm water. Unctuous, or greasy substances, are very improper; spirits are still more pernicious; and the thing itself requires no such endeavours. Even where the scurf is thickest, as on the neck, arm-pits, and groin, it will be easily removed at the second or third washing, without the use of ointments, and without the danger of rough or long continued rubbing.

5. I have recommended warm water at first; but its warmth should be diminished by degrees in the course of the first and second week, as the infant gains strength, till you can use it quite cold, both in winter and summer, not only with safety but with the most salutary effects. The unavoidable uncleanness of children sufficiently indicates the

necessity of washing them often. The whole body ought to be washed every morning, and the lower half every night. I cannot too strongly urge the continued use of the cold bath in the morning, not only during infancy, but till the age of puberty and afterwards. It will promote health, strength, and beauty: it will fortify the body against every danger either of heat or cold.

“ A frame so steel'd
 “ Dreads not the cough, nor those ungenial blasts
 “ That breathe the tertian, or fell rheumatism:
 “ The nerves so temper'd never quit their tone:
 “ No chronic languors haunt such hardy breasts.”

6. On the subject of dress very few instructions need be given, as the old practice of tight swathing and almost smothering the infant under a load of clothes, has yielded at length to the suggestions of reason and experience. The limbs of children are no longer confined, nor is the free circulation of the blood and secretion of the humours impeded by the barbarous restraint of fillets and rollers. Thank God! this formidable apparatus is fallen into general disuse; and a rational tenderness now shews itself in making the dress light, simple, and loose. By being as light as is consistent with due warmth, it will neither encumber the infant, nor cause any waste of his powers:---in consequence of its simplicity, it will be readily and easily put on, so as to prevent many cries and tears, an object of more importance than is generally imagined:---and its looseness will

• Dr. Armstrong on Health.

leave full room for moving and stretching those little limbs which have been long moulded together in a heap, and for the growth and expansion of the entire frame. The only restraint we can permit is the common contrivance to hinder children from rubbing their eyes, to which they are usually much disposed; and the only pressure that should be allowed is the application of a broad piece of thin flannel round the navel, to guard against any protrusion there, from the accidental violence of the child's cries. But take care not to make the pressure too tight, or you will not only hurt the bowels, but, perhaps, cause in another part a much worse rupture than that to which your precaution is directed. The night-clothes must not only be as loose as those worn by day, or the purposes of rest are defeated, but much lighter, from a due regard to the difference of situation, so that the infant may at all times experience nearly the same degree of heat. You cannot be too attentive to keep the child dry. Every moisture or impurity should be instantly removed. The linen next the skin, which is always imbibing perspirable matter, must be changed often; and the same dress ought never to be kept on for twenty-four hours together.

7. A little of the old custom, as far only as respects warmth, still prevails with regard to the head-dress. I wish to see even these remains of absurdity abolished. There is no part, which, from the moment of birth, wants so much to be relieved from all pressure, and exposed to the outward air,

as the head. In the course of a lingering or difficult labour, the soft bones of the skull, which are made to yield with surprising pliancy to various obstructions, are sometimes squeezed together, and will even lap over in an extraordinary manner. It is evidently wrong to prevent them now by any check from resuming their proper place and form, which they will do of themselves. Even if no such accident has taken place, it is of the utmost consequence that the external air should be allowed to act on them freely, as they will thereby become hard and compact, and of course fitter to defend the brain not only against bruises and fractures but also from cold, and defluxions. Let the cap therefore be very thin and light---no *biggin* inside it---no folds---no ribbands---no cockades---no cumbrous ornaments---no stay-bands---but a slight fastening with a bit of tape. Pins are improper in any part of the dress. As nature will soon furnish the head with a far better covering, even the thin cap becomes in a short time unnecessary.

8. But I must reprobate in far severer language the conduct of some practitioners, who attempt to mould the heads of new-born infants, under the pretence of giving them a more beautiful form. That hand should be amputated, which thus dares to offer violence to the works of nature. The ossification of a child's head is incomplete in the womb, to favor the great purposes of safe delivery; and the alterations it may receive in its passage are of short continuance. Disease, real blemishes, or

untoward events, may demand our care ; but let us not with unwarrantable presumption venture to amend or rather to spoil what the Author of our being has made perfect.

9. It would be no less criminal to conceal any accident which may happen from the practitioner's awkward or improper interference during labour. The gristly state of the bones is, indeed, well suited to every pliant, yielding purpose, without any detriment to the child ; but limbs of such delicacy are liable to be fractured or dislocated by inexpert or violent efforts. As the evil may often be easily remedied, how cruel it is to expose a child to lameness, or some other lamentable injury, for the sake of hiding at the time the effects of rashness and ignorance ! — A person of known chirurgical skill should be immediately called in on such occasions, as well as in cases of any original imperfection, or irregularity in the child's structure.

10. Though the midwife's office closes with the above duties, I cannot conclude without giving some farther directions to the nurse respecting the great charge intrusted to her care. If the mother suckles her child, she will listen to me with docility : even if any other woman should be employed to supply her place, I hope that woman also will be induced to make some little sacrifices to the well-being of the infant. The health of the nurse herself, as well as of the child will be greatly promoted by her attention to the temperate and wholesome diet which

I have recommended. Let her not, from a foolish though prevalent idea of lessening the demands on her own breast, or of strengthening the child with additional nourishment, be eager to entice the baby to the use of spoon-meat. Her milk is, far better suited to the young stomach, and will afford a greater quantity of nutritious chyle than any preparation which art can devise. If she is not irregular in her own manner of living, she need not fear having an abundant supply for the wants of the child; and no restraint in this respect should be imposed, except that of not suffering the infant to sleep at the breast, or to suck till vomiting ensues. A little pap or panada may be now and then introduced, merely with a view of familiarising it to the child's taste, and thereby lessening the difficulty and danger of sudden and total change at the time of weaning. For a few weeks before this takes place, spoon-meat should be given more frequently, and in greater quantity, reducing in the like degree the proportion of breast-milk, till the gradual increase of the one and diminution of the other render the change almost imperceptible. When a child is weaning, care must be taken to keep the body open by gentle laxatives; and a very mild opiate may be allowed for a night or two, but continued no longer. The custom of giving food or drink to children during the night is not more troublesome than pernicious. Even in the course of the day, they should not be crammed every hour, and trained up in habits of early gluttony. Temperance is that sure preservative of

health, which they cannot be taught to practice too soon. Let them eat heartily at proper intervals; and the longer they are kept from gross animal food, and fermented liquors of all sorts, the more rapidly will they thrive, and the greater number of diseases will they escape.

11. The proper time of weaning infants is generally indicated by the previous cutting of their teeth. But I do not mean to lay this down as an exact or invariable rule. The state of the child's health is always to be duly considered. It seems only that the cutting of the teeth gives a sort of hint of the use to which they may be applied. It is farther remarkable, that during the continuance of this usually sharp and painful operation, children, as it were instinctively, carry every thing that is put into their hands up to their mouths. Give them on these occasions dried fruits, pieces of biscuits, crusts of bread, and sticks of fresh liquorice. Corals and the like hard substances are very improper, as they will either bruise the gums and cause an inflammation, or make them hard and callous by continual rubbing, so as to render the cutting of the teeth still more difficult, and the pain more acute and lasting. When the symptoms are violent, recourse must be had to medical assistance.

12. There is no occasion to repeat my former observations on the advantages of pure and fresh air, so essential to the existence of every creature. It approaches nearer than any thing else to the scriptural definition of the Deity. In it we live, and move,

and have our being. Infants are still more susceptible of its impressions than grown persons, from the greater delicacy of their lungs, skin, and whole frame. After the first month they must not be confined even in well-ventilated rooms, but must be taken out into the fields every day, to drink as it were from the pure sources of heaven, copious draughts of health and chearfulness. A little more covering is necessary at first when you take them out; but even that must be gradually discontinued, or you will defeat the very end in view, and counteract the genial, elastic, invigorating influence of the air. Your own good sense will teach you to chuse open unconfined walks, and sunny situations; to shun the sickly vale; and to ascend the delightful eminence, where, according to the description of our favorite poet,

—“ The rose inflames

“ The verdant spring;—in virgin beauty blows

“ The tender lily, languishingly sweet;—

“ O’er every hedge the wanton woodbine roves;—

“ And autumn ripens in the summer’s ray.”

13. I have lately seen a book advertised under the curious, or the whimsical title of *The Age of Reason*. I have been told it treats of politics.—The subject is quite out of my sphere.—But I think the title very applicable to the present times, on account of the disuse of many irrational practices in the treatment of infants, and of *rocking* among the rest. It is always unnecessary—often very injurious. The

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delicate texture of the brain is liable to be particularly affected by such agitation. A new-born infant wants no contrivances to make him sleep. Nature lulls him into sweet repose, without the help of a cradle, or opiates. The only accommodation you need prepare for him is a moveable little bed-stead, which may be easily taken into any room in the course of the day, and fastened on to that of the nurse at night, to prevent any injury from accidental pressure. A healthy, thriving child sleeps more than two thirds of his time for a few weeks after his birth. So strong a propensity must at first be indulged by day as well as by night; but, with judicious management, he will be gradually brought to require and to enjoy repose by night only. This is the proper time of rest pointed out by nature. Sleep is always more tranquil and agreeable, when the sun is below the horizon, the air, heated by its direct rays, never involving our senses in so profound a calm.

14. Children require no exercise for the first and second months, but a gentle motion somewhat like that which they received in the mother's womb. A change of position is also necessary, lest by always laying them on the same side, or carrying them on the same arm, their soft limbs may be moulded into an improper shape. But violent agitations of any sort may do them a much more irreparable injury. The brain is peculiarly liable to be affected; and though neither convulsions, nor any other perceptible complaint may immediately follow, yet a weakness of understanding, or diminution of the mental

powers is often the consequence, and defeats all the efforts of the best education afterwards. Tossing children on high, or rapidly dancing them, as it is called, must be very unsafe, till their little limbs have gained some degree of firmness. A great deal of the *spine* in particular is gristly, and the breast entirely so. Consider then what may be the effect of the grasp or strong pressure of your hands against those places, in order to prevent the child from falling. As he advances in age, his bones acquire solidity, and his whole body becomes able to endure a little shock. Brisk, lively, and frequent exercise will then be of the greatest service to him; and you run no risk of laying the foundations of any disease, or of destroying any part of that admirable symmetry in the human frame, on which health and beauty alike depend.

15. After having declared myself so great an enemy to every species of domestic quackery, it cannot be expected that I should enter into any details on the diseases of infancy. Besides, the great object of my plan is to prevent complaints, and to supersede the use of medicines. A child, used to the cold bath and to the full enjoyment of fresh air, cannot be liable to coughs, colds, sore eyes, or defluxions. The milk of a healthy, temperate nurse will never give him the gripes, or the cholic: it will nourish, but not inflame him: it will keep the habit pure, the action of the blood regular, and the skin free from any blotch or pimple. The pre-disposing causes of disorders in children are the weakness of

the digestive powers, and the irritability of the nervous system. Both are obviated by the methods I propose. The stomach is supplied, but not over-charged, with such aliment as is suited to its strength; and every thing that may irritate the nerves, or give rise to convulsions, is averted with all possible care. The heads of children being proportionably larger, and the nervous system more extended than in adults, they are of course more susceptible of irritation. But a strict observance of the rules before laid down will sheathe the nerves, lessen the irritability of the whole system, and defend the brain itself from many alarming injuries. In short, I know of no disease in the long catalogue of infantile afflictions, against which the suckling may not be secured by the tender and rational conduct of the nurse. I do not make any exception even on account of the small-pox. A child brought up in the manner here described has nothing to fear from that old enemy to health and beauty. The purity of the infant's habit will correct the malignity, and prevent the usual ravages of the contagion. Yet, the present state of society, the possible irregularities of the nurse, and the natural desire of being able to command both time and circumstances, concur to render inoculation advisable. The best time in most cases is when the child is three or four months old.

CONCLUSION.

I have now, to the utmost of my ability, completed the task which I undertook. I have enlarged on such parts of the subject as appeared to me most

interesting, though too often neglected; and, passing lightly over others, have pointed out the best sources of farther information. I am not conscious to myself of having in any instance aimed at distinction by the novelty of my opinions, or courted popularity by flattering vulgar prejudices. In stating every argument, I trusted more to the plain evidence of truth, than to the arts of specious reasoning, or the studied graces of language. To be of real service to my country-women and to their lovely offspring is the fondest wish of my heart; and should I be so fortunate as to promote the health even of one individual, I shall think my humble labours very amply rewarded.

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